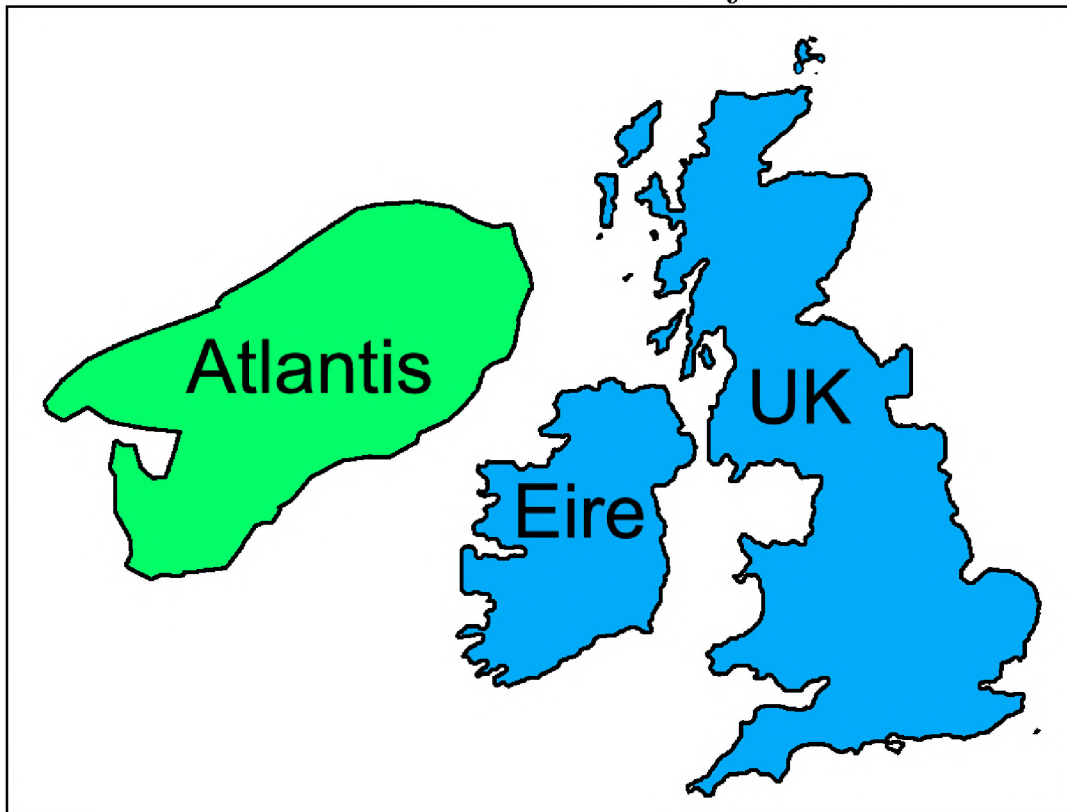

Sinking of Atlantis by Nibiru in 9577 BC

Stuart L Harris; August 2018

Carbondale, CO; Shirley, LI; Ellenville, NY; Columbia, SC; Reading, PA; Knoxville, TN

Sonchis, an aged Egyptian priest of Sais, told Solon that the people of Atlantis spoke Greek – not Solon’s Greek, but Homeric Greek, which Felice Vinci identified as Finnish when he discovered that Homer’s battle for Troy was fought in Finland. Poseidon and Cleito, rulers of Atlantis, gave Atlas, their first twin son, rule over all of Atlantis. Their second son, Eumelus, was given rule over a region of eastern Atlantis named after a land further east. Eumelus acquired the title Gadeira, which translates into Finnish as *Käde Eiran* meaning ‘Hand of Eira’. If Eira lay east of Atlantis, then Atlantis lay west of Eire. And there it lies, a kilometer deep, named Rockall Plateau.

Atlantis west of Eire.



Sinking of Atlantis by Nibiru in 9577 BC: Part 1, discovery west of Eire

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Sonchis, an aged Egyptian priest of Sais, told Solon that the people of Atlantis spoke Greek – not Solon’s Greek, but Homeric Greek, which Felice Vinci identified as Finnish when he discovered that Homer’s battle for Troy was fought in Finland. Poseidon and Cleito, rulers of Atlantis, gave Atlas, their first twin son, rule over all of Atlantis. Their second son, Eumelus, was given rule over a region of eastern Atlantis named after a land further east. Eumelus acquired the title Gadeira, which translates into Finnish as *Käde Eiran* meaning ‘Hand of Eira’. If Eira lay east of Atlantis, then Atlantis lay west of Eire. And there it lies, a kilometer deep, named Rockall Plateau.

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Summary

1 Discovery: As recounted by Plato in Critias, an Egyptian priest of Sais told Solon that the people of Atlantis spoke the same language as Greeks, not modern Greek, which Solon would have understood, but Homeric Greek. Felice Vinci (1995) proved that Troy was in Finland and Homeric Greeks spoke Finnish. His proof: the List of Ships in Book II of the Iliad proceeds counter-clockwise around the Baltic beginning north of Stockholm, and places Troy in southwest Finland. Names from the Iliad make sense in Finnish, and so should names from Atlantis.

Poseidon and Cleito, rulers of Atlantis, named their first set of twin sons Atlas and Eumelus. They assigned Atlas to rule over central Atlantis, and Eumelus to rule over a region of eastern Atlantis named after a land further east. **Atlas** comes from *Haat-la-s* meaning ‘Ships-land son’. Eumelus acquired the title **Gadeira**, which comes from *Käde Eiran* meaning ‘Hand of Eira’. If Eira lay east of Atlantis, then Atlantis lay west of Eire, that is, Ireland!

Sinking of Atlantis by Nibiru in 9577 BC: Part 1, discovery west of Eire

After translating **Gadeira**, finding Atlantis took only five minutes, but understanding how it sank, how it met all of Solon's criteria, and how its tsunami flooded Greece were more difficult.

Jonathan Northcote (2016), a lawyer from South Africa, had previously deduced that Gadeira might mean Ireland, in which case, Rockall Plateau west of Ireland would be Atlantis - it was about the right size and shape - but he never followed up.

West of Ireland lies Rockall Plateau, clearly visible on Google Earth, a kilometer deep. It is wider than the dimensions given to Solon for the interior plain, a clue to how it sank. The Gulf Stream kept Atlantis warm and free of ice, which allowed coconut palms to grow on Atlantis, just as palms grow on the west coast of Ireland today.

Proclus, in his commentary of Timaeus, wrote "there were seven islands in that sea in their time, sacred to Persephone." Five of these remain – England, Ireland, Iceland, Greenland and Newfoundland. A sixth appears on Zeno's chart of the North Atlantic, called Frisland, now Faroe Plateau, which sank in October of 2194 BC, leaving just the Faroe Islands (Raubenheimer, 2010). The seventh was Atlantis, west of Ireland, called Atland by Frisians.

2 Sinking: Rockall Plateau is 650 km long, 450 km wide and 2 km high; its top averages a kilometer below sea level, while its bottom rests on the flat surface of Rockall Basin, 3 km deep. Its eastern edge matches the continental shelf of Ireland, 218 km away. The plateau consists of two overlapping sedimentary layers, a top half and a bottom half. By sliding the top half 175 km east over the bottom half, Atlantis pops out of the sea, about 400 m high. A mountain range crosses the north; in the center, farm lands measure 3000 stadia long by 2000 stadia wide from sea to sea. Its area measures in size between Libya and Asia as they were defined in 600 BC. Any trace of agricultural canals have vanished, but a feature in the southwest looks like a ship channel that ends in a circular lake.

In Egypt, 4000 km away, shepherds in the mountains recalled the sequence: a terrible earthquake followed by a catastrophic flood that penetrated the Mediterranean Sea and lasted a day and a night. The earthquake resulted from an extra-terrestrial strike by a satellite of Nibiru above Karelia.

Shock from a separate strike over Atlantis turned two horizontal layers of quartz into a frictionless surface. The top half slid west into Rockall Basin, gathering speed as it went. It slid 175 km, lost 1.5 km of elevation, and reached 422 kph.

Suddenly the sliding top regained friction and latched onto the bottom half. Momentum jerked the two pieces away from the continental shelf and across the Atlantic. As the plateau moved like a sheet of plywood through the sea, it lost energy from raising the sea. It finally stopped when the front edge dug into the bottom of the basin and rotated the plateau counter-clockwise 6 degrees. Above an area the size of Britain, the slide had raised sea level an average of 1.5 km with a peak of 2.1 km.

3 Nibiru: Emilo Spedicato (2011) identified the body whose satellite struck Atlantis as Nibiru, a planet ten times the size of Earth, glowing fiery hot like a sun, with a dozen moons and a cloud of debris like a comet. Nibiru followed a twenty-year, elliptical, retrograde orbit that carried it past Jupiter at one extreme and intercepted Earth and Tiamat at the other. Its orbital plane aligned with the other planets, making it a nemesis. Every twenty years, Earth passed through Nibiru's dust cloud and cooled. Nibiru came from the direction of Aries, the first house of the Zodiac. It

arrived at the spring equinox in the southern hemisphere, or the fall equinox in the northern hemisphere. These equinoxes started a new year in Egyptian and other early calendars.

Atlantis sank in the spring, based on young animals smashed to pieces in British caves by the tsunami. According to Sumerians, it was the spring equinox because *nibiru* means ‘the crossing’ or ‘the turning point’, the division between two seasons. In order for Nibiru to approach from Aires in the spring, the pole was reversed. According to Mixtec history, at the time of the great flood that lasted one day and wiped out most men, a second sun scorched the Earth, created the flood, and reversed the poles.

In 9677 BC, a century before Atlantis, ice cores from Greenland began to record temperature drops every twenty years, accompanied by occasional impacts. A strike forty years later ended the Younger Dryas; over the next sixty years, average temperature climbed 16°C, with pauses every twenty years.

In 9577 BC, Nibiru caused Atlantis to sink, based on converging estimates: Solon heard the story some 9000 years later, in 574 BC; 189 radiocarbon dates from damage caused by the tsunami average 9577 BC; ice core temperatures declined steeply the next year, 9576 BC; a spike in ammonium in GISP2 ice core in 9577 BC indicated an extra-terrestrial strike; sea level jumped 3 meters around 9575 BC from ablation of the Scandinavian and Alaskan ice sheets.

In 9577 BC, one satellite broke into pieces and vaporized an area of the Scandinavian Ice Sheet the size of Hungary, which raised sea level three meters (Donoghue and Balsillie, 2004). Other satellites struck Alaska, forming lakes. An expanding cloud of vapor created a hurricane, unleashed torrential rain and spawned violent winds in the northern hemisphere to add to the misery of any survivors. One stricken area was Karelia in Russia, a region covered with shallow lakes. An ice dam at Karelia across the eastern outlet of Baltic Ice Lake collapsed, which rapidly drained the lake to sea level. Habitation across the north up to but not including the Urals ceased, the end of the upper Paleolithic.

4 Tsunami: The Atlantis tsunami began 2.1 km high. It raced east across Ireland and Britain; through the newly opened breach across Denmark; past Germany, Poland, and Belarus; around the Ukraine; south across the Black Sea; plunged through the Bosphorus into the Aegean Sea, drowned coastal Greece and flooded the Egyptian Delta. The Great Pyramid of Giza retains a high-water mark 122 meters above sea level. In Russia, it spared the Ural Mountains.

On the Iberian Peninsula, flood level reached 660 m, all the way to Madrid. In eastern North America, it reached 1200 feet above sea level, the highest plowed fields, and sloshed into the Mississippi Valley. It continued down the coast, flooding Texas, Cuba, the Yucatan, Belize, and breached the Isthmus of Panama. On the Pacific side of the Arctic Ocean, it breached the Bering Land Bridge, which then developed a Strait.

A separate strike between Antarctica and New Zealand flooded coastal New Zealand and to a lesser extent, Australia and even the west coast of the Americas. A smaller strike in northern Alaska created an array of depressions that became lakes.

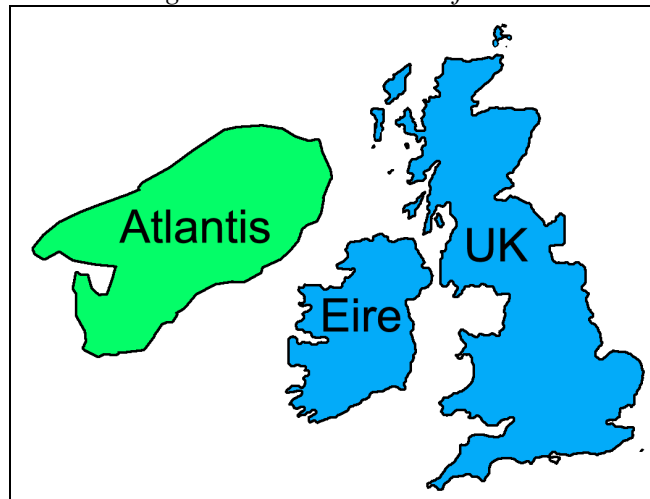
Over the next month, the seas slowly moved toward a new pole, while Earth rotated in the opposite direction until it stabilized with the equatorial bulge in the same position. One consequence: the orbital period increased slightly.

Sinking of Atlantis by Nibiru in 9577 BC: Part 1, discovery west of Eire

Figure 1: Atlantis, west of Ireland, was one of seven islands across the North Atlantic in 9600 BC. The Gulf Stream kept Atlantis warm enough to grow coconut palms.



Figure 2: Atlantis west of Eire.



Requirements for Atlantis

Plato said:

Atlantis, named after its founder Atlas, was
a large, flat island,
west of the Pillars of Hercules,
some of whose edges rose steeply
from the Atlantic Ocean,
while other edges were not so mountainous.
Atlantis sank suddenly and completely,
9000 years before the tale was told to Solon
when he first arrived in Egypt in 574 BC. (Critias)

Proclus quoted Marcellus' *Ethiopian History*, now lost:

"There were seven islands in that sea in their times. ...
Atlantis for many periods had dominion over all the islands
in the Atlantic Sea." (Proclus, 385 BC)

Stanza 46 of Archaic and Secret Records of Old Asia says:

The first great waters came.
They engulfed the seven islands.
All the unholy (necromancers and militarists) were annihilated, and with them
most of the huge animals born of the sweat of the Earth.

Survivors from the mountains of Egypt said:
an immense earthquake preceded
the sinking of Atlantis, which
created a massive tsunami, that
drowned an army near present day Athens, and
lasted a day and a night in the Mediterranean.

The Chimalpopoca Codex of Mayan Mexico says a second sun caused a pole shift:
“When the sun Nauhi-atl ‘4 water’ came [= pole shift]
there had passed away four hundred years, plus two ages, plus 76 years.
Then all mankind was lost and drowned,
and found themselves changed into fish.
The sky came nearer the water.
In a single day all was lost,
and the sun Nahui-Xochitl ‘4-flower’ [Nibiru]
destroyed all our flesh.
Even the mountains sank into the water,
and the water remained tranquil for 52 springs.”

The Mixtecs of Mexico held that:
“The children of the gods built them a garden,
in which they put many trees, and fruit trees, and flowers, and roses, and odorous shrubs.
Subsequently there came a great deluge,
in which many of the sons and daughters of the gods perished.” (Bancroft, 1874)

The priest of Sais said
Atlantis was midway¹ between the size of Asia and Libya.
It was on the way to other islands,
and from these you might pass to the whole of the opposite continent. (Timaeus)

It had a rectangular inner farmland that
measured 3000 stadia long by
2000 stadia wide from sea to sea,
surrounded by an irrigation ditch.

A mountain range on the north coast,
protected Atlantis from cold north winds,
while additional low mountains around the periphery
gave rise to streams used to irrigate the plain during summer.

Near Atlantis were lofty, snow-capped mountain peaks.
It had a temperate climate, where
coconut palms grew, elephants lived, and
two crops per year were grown.

The people of Atlantis spoke the same language as ancient Greeks. (Critias)

None of Plato’s names make sense in modern Greek. However,

¹ “Historian P. B. S. Andrews suggested that the quotation has been the result of misreading Solon’s notes. He maintains that the text should be read as ‘midway between Libya and Asia’ since in the original Greek there is only a difference on one letter between the words for ‘midway’ (meson) and ‘larger than’ (meizon). This suggestion was supported by the classical scholar J. V. Luce.” Atlantipedia; The size of Atlantis; May 24, 2010, on the web.

Sinking of Atlantis by Nibiru in 9577 BC: Part 1, discovery west of Eire

Homer's Trojan War was fought in Finland, not Turkey (Vinci, 1995).

Homeric names make sense in Finnish.

Proper names from Atlantis also make sense in Finnish, such as *Haat-la-s* means 'Ships-land son'.

Poseidon and Cleito gave their second son Eumelus rule over a region of eastern Atlantis, named after a land further east toward the Pillars of Hercules.

Eumelus acquired the title 'Gadeira', or *Käde Eiran* meaning 'Hand of Eira' (Critias)

Thus, *Atlantis lay west of Eira* (or Eire, pronounced Era).

Gadeira comes from *Käde Eiran* meaning 'Hand of Eira'

In two dialogs, Plato recited a legend heard by Solon in Egypt in 574 BC about the sinking of Atlantis west of the Pillars of Hercules 9000 years earlier. The catastrophe nearly wiped out a fabled race of people, said to be three times taller than man. Since then, no one has found the sunken island, leading many to believe it never existed.

Proper names from Atlantis are not Greek. The priest from Sais said the language of Atlantis was once spoken by Greeks – not modern Greek, which Solon would have understood, but Homeric Greek, which Felice Vinci proved was Finnish by locating Troy in Finland (Vinci 1995). What if these names were Finnish, the written language of mammoth hunters?

To begin, I tried an easy name, Atlas.

Poseidon and Cleito named their first son Atlas

Atla comes from *Haat-la* meaning 'ships-land', a name for Atlantis, founded as a marine colony.

Atlas, the eldest of five sets of twin boys by Poseidon and Cleito, was named after Atla, either a founder of Atlantis or the name of Atlantis. In Finnish, *Atla-s* means 'Atla-son'.

That makes sense. What else?

Atlante, the French name for the Atlantic Ocean, comes from *Atlan-tie* meaning 'Atla's Way'. Norway follows the same tradition, named after North Seaway.

Atlantis comes from *Atlantie-s*, meaning 'Atla's-way Clan-home'. Here *-s* abbreviates *-suo*, which combines two words: *suku* 'clan' and *suoja* 'home'. For example, *Suo-mi*, the name of Finland, means 'Clan-home man', or if pronounced *Suo-mme*, means 'Our clan-home'. Finns have forgotten this and think *suo* means 'swamp'.

Meropis, another name for Atlantis, comes from *Mer-oppi-s* meaning 'sea-knowledge clan-home'.

Poseidon's second son Eumelus acquired the title Gadeira

Poseidon gave **Eumelus**, the younger twin of Atlas, an eastern part of the island to rule, named for a land further east. Eumelus took the title **Gadeira**, after the land he ruled.

Gadeira cannot mean Cadiz in southwest Spain because Cadiz did not yet exist. What else could **Gadeira** mean?

Gadeira separates into two parts.

GADE- < *käde*- meaning ‘hand, right hand of the ruler, administrator of the realm’

EIRA < *Eira* meaning ‘Eire, Ireland’, pronounced ‘era’, derived from *herra* meaning ‘man’.

Eiran means ‘of Eira’.

Käde Eiran, ‘Hand of Eira’, named for a land east of Atlantis called *Eira*. Therefore, *Atlantis must lie west of Ireland*. Is there such an island?

Family of Poseidon and Cleito

Table 1: The family of Poseidon and Cleito, as told to Solon (Critias).

Poseidon took for his allotment the island of **Atlantis** and settled therein the children whom he had begotten of a mortal woman in a region of the island of the following description. ... Thereon dwelt one of the natives originally sprung from the earth, **Evenor** by name, [113c] with his wife **Leucippe**; and they had for offspring an only-begotten daughter, **Cleito**. And when this damsel was now come to marriageable age, her mother died and also her father; and Poseidon, being smitten with desire for her, wedded her. [113d]

.... And he begat five pairs of twin sons and reared them up; and when he had divided all the island of Atlantis into ten portions, he assigned to the first-born of the eldest sons [113e] his mother's dwelling and the allotment surrounding it, which was the largest and best; and him he appointed to be king over the rest, and the others to be rulers, granting to each the rule over many men and a large tract of country. [114a]

And to all of them he gave names, giving to him that was eldest and king the name after which the whole island was called and the sea spoken of as the Atlantic, because *the first king* who then reigned *had the name of Atlas*. [114a]

And the name of his younger twin brother, who had for his portion the extremity of the island near the Pillars of Hercules, up to the part of the country now called **Gadeira** after the name of that region, was **Eumelus** in Greek, but in the native tongue **Gadeirus**, which fact may have given its title to the country. [114b]

And of the pair that were born next, he called the one **Ampheres** and the other **Evaemon**; and of the third pair the elder was named **Mneseus** and the younger **Autochthon**; and of the fourth pair, he called the first **Elasippus** and the second **Mestor**; and of the fifth pair, **Azaes** was the name given to the elder, and **Diaprepes** to the second. [114b, c] (Plato, Critias, translated by W.R.M. Lamb)

Atlantis names translated into Finnish

Table 2: Atlantis names translated into Finnish.

Ampheres, 3rd twin < *Amme perhe-s* ‘Large-tub-family son’

Atla, the first king < *Haat-la* ‘Ships land’

Atlas, 1st twin < *Haatla-s* ‘Ships-land son’

Atlante (Fr), the Atlantic < *Haatlan-tie* ‘Ships-land’s Way’

Atlanticus (L) < *Haatlan-tie kyy-us* ‘Ships-land’s Way Serpent River’. Notes: *lantti* means ‘copper’; serpent river = Gulf Stream; drop vowel in front of -us. In Norse mythology,

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Serpent River surrounded and protected the island home of Odin and Freya, a myth passed down through the ages after Atlantis had vanished.

Atlantis < *Haatlan-tie-s* 'Shipland's Way Clan-home'; -s abbreviates -*suo* 'clan home', which combines two words: *suku* 'clan' and *suoja* 'home'.

Autochthon, 6th twin < *Auttoi-ko-ton* 'Is he without help?'

Azaes, 9th twin < *ahjs äes* 'Copper harrow'; the island was renowned for copper.

Cleito, beautiful orphan < *K'laito* 'Female hapless one'; *k* from *akka* 'woman, female'.

Diaprepes, 10th twin < *Tieüä Pon ree-hepos* 'He knows Po's sled-horses', from *heposten* 'horses' gen. pl., Po 'son' being his father Poseidon. *Ree-* can be 'sled-' or 'cart-'. Because of the Gulf Stream, Atlantis had little snow, so 'cart' may be a better translation. Two references to a cart from 5500 BC are the vehicle used by Urth, pulled by lions, and the cart used by Delling, Nott and Day to deliver fish around Island Earth every morning.

Eira, Ireland < *herra* 'man; mistress, master, lord'. At first it was named 'land of man'.

Elasippus, 7th twin < *Hellä-si hippa-us* 'Your loving gray-bearded nimble fellow of the river'; drops vowel in front of -*us* 'river'; apparently named for Po.

Eumelus, 2nd twin < *E ume-luu's* 'First fog-light'; from *eheys* 'first', *ume* 'fog', *luuks* 'light, becoming white', Latin *lux* 'light'

Evaemon, 4th twin < [*Annan*] *evä-emon* '[I give you] food from a mother'

Evenor, father of Cleito < *Eevän ori* 'Eve's stallion', from *evä* 'food'

Gadeira, a title of Eumelus < *Käde Eira* 'Hand of Eira'; Eira, eastern Atlantis, was named for a land further east, Eira or Ireland, thus placing Atlantis west of Ireland.

Leucippe, mother of Cleito < *leikki-hyppi* 'sport horse'

Meropis, alternate name for Atlantis < *Mer-oppi-s* 'sea-knowledge clan-home', mer- comes from meri 'sea'; -s abbreviates -*suo* 'clan home', which combines two words: *suku* 'clan' and *suoja* 'home'.

Mestor, 8th twin < *mesi-torvi* 'honey-toned horn'

Mneseus, 5th twin < *menne Seus* 'last Zeus'

Poseidon, father of twins < *Po sei, toen!* 'Son seven, true!'

Geography of Atlantis

According to Plato, the interior agricultural plain of Atlantis, roughly rectangular, measured 2000 x 3000 stadia, 314 x 471 km, based upon a Greek stadion of 157 m, determined by Jean Antoin Letronne in 1816 and reconfirmed by Lev Firsov in 1985.

An empirical determination of the length of the stadion was made by Lev Vasilevich Firsov, who averaged 81 distances given by Eratosthenes and Strabo with straight-line distances measured by modern methods. He obtained a result of 157.7 m, in agreement with Letronne (Engels, 1985).

The whole country was very lofty and precipitous on the side of the sea.

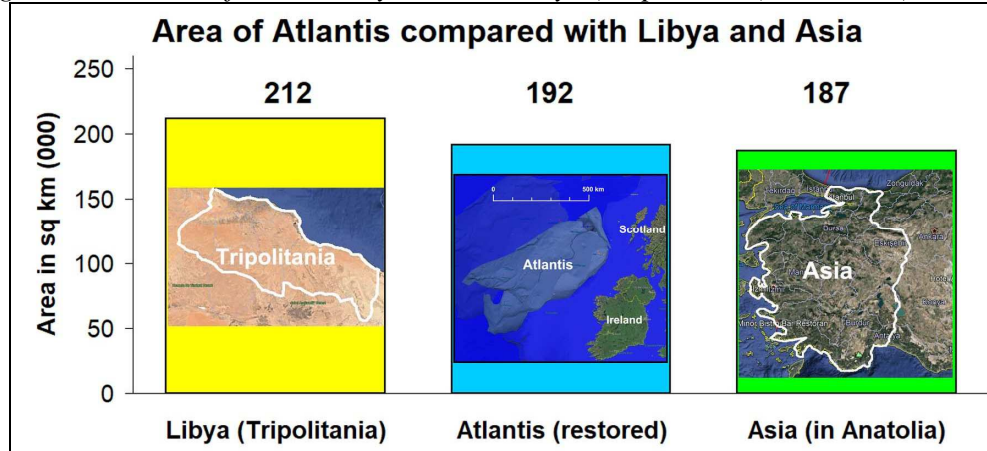
The size of Atlantis lay between Libya and Asia (Figure 3, using definitions from 600 BC).

Tripolitania (ancient Libya) measures $280 \times 760 \text{ km} = 212,000 \text{ sq km}$

Atlantis (restored) measures $295 \times 650 \text{ km} = 192,000 \text{ sq km}$

Asia (within Anatolia) measures $425 \times 440 \text{ km} = 187,000 \text{ sq km}$

Figure 3: The size of Atlantis lay between Libya (Tripolitania) and Asia (Anatolia).



West of Ireland lies Rockall Plateau

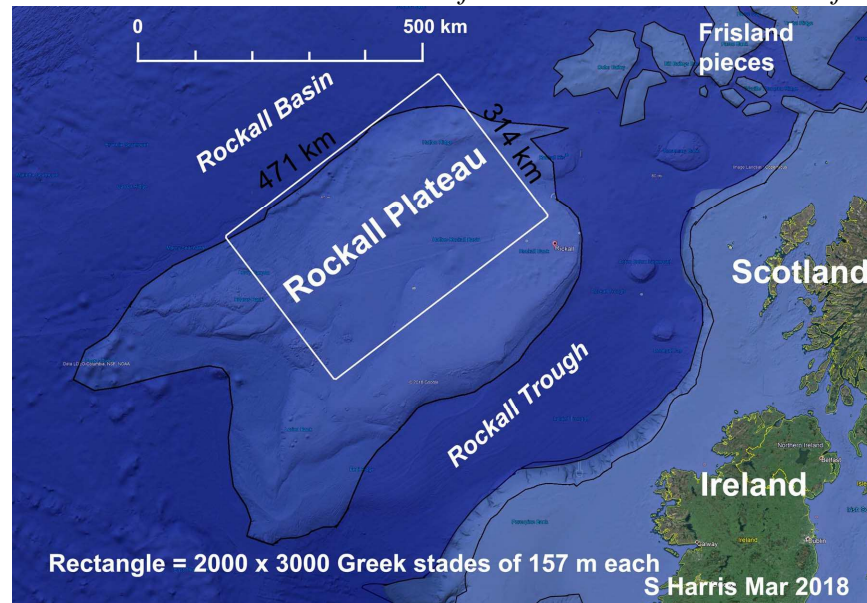
Rockall Plateau

West of Ireland lies Rockall Plateau, 650 km long, 450 km wide and 2 km high – larger than Britain. Its central rectangular region is wider than 3000 x 2000 stadia cited by Plato, a clue to how it sank. It has hills, valleys and flat areas left by lakes, in short, a terrestrial landscape. A single rock juts above sea level, but the plateau averages a kilometer deep (Figure 4).

The plateau lies in two pieces, an event linked to its sinking. How and when it separated from the continental shelf has remained a mystery, though sea-floor spreading was ruled out.

“Opening of the Rockall Trough postdates the initiation of spreading in Biscay, although the duration and kinematics of spreading in the trough remain obscure.” (Roberts et. al, 1979)

Figure 4: Rockall Plateau encloses an area of 2000 x 3000 Greek stades of 185 m each.

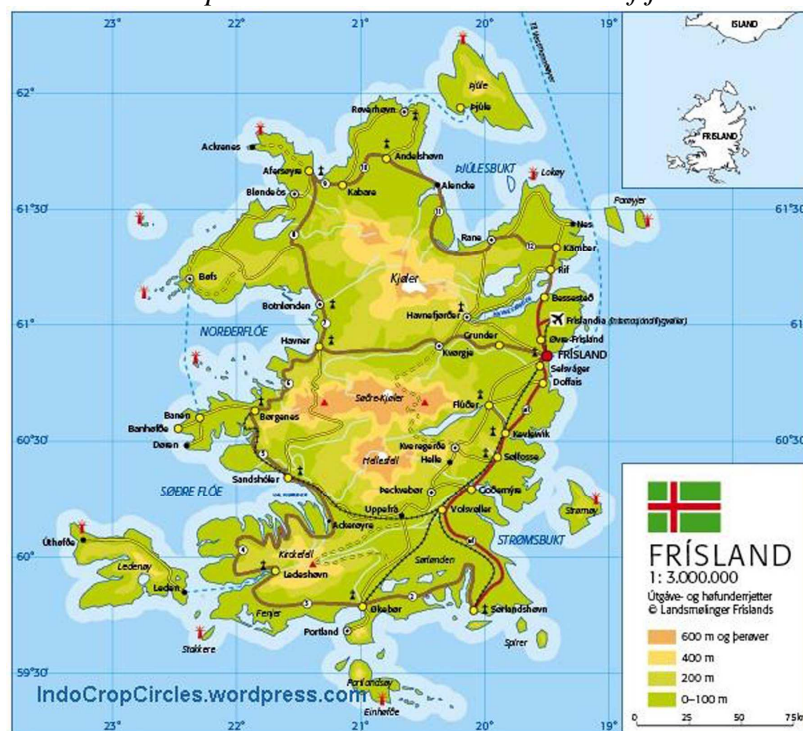


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Faroe Plateau

Northeast of Atlantis lies another sunken island that Zeno called **Frisland**, Frisians called **Oldland**, and Greek mythology called **Hyperborea** (Figures 4 and 5). About half the island slid into Rockall Basin in 2194 BC, while the rest slid down a saddle toward Iceland (Raubenheimer, 2010; Harris, 2018). Part of what remains is Faroe Plateau, of which a tiny fraction pokes above the sea, the Faroe Islands. Hyperboreans were taller and stronger than men. Aelian (*Varia Historia*, 3.18) preserved a story by the ancient Greek writer Theopompus in his work *Philippica*: the warlike city of Machimus once sailed to conquer Hyperborea, but abandoned the plan when they realized the Meropes of Hyperborea were twice as tall, eight times as strong, and very pious.

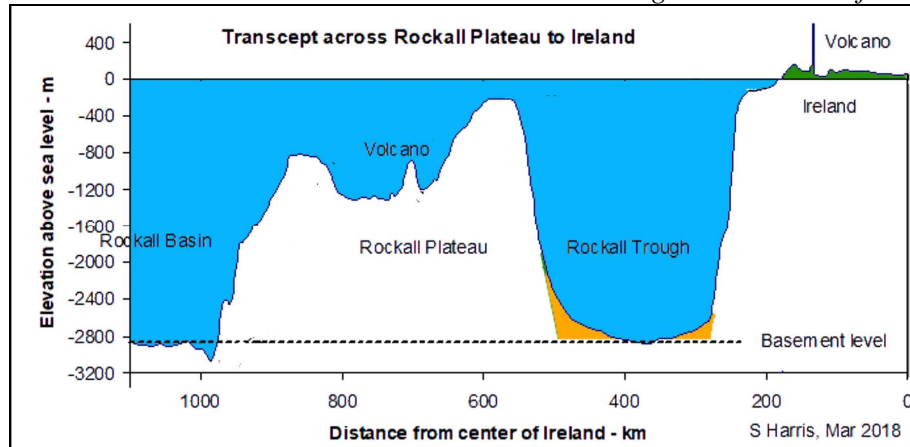
Figure 5: Hyperborea-Frisland, copied from old maps and updated with modern roads and railroads (IndoCropCircles). The scale understates the size of Hyperborea, which was actually twice as long, 500 km instead of 265 km as shown. Larger than Ireland, it would have had several airports around the island instead of just one.



Rockall Trough

Between Rockall Plateau and the continental shelf of Ireland lies Rockall Trough. It averages 3 km deep - 1.9 km in the north, 4.3 km in the south. Sloping walls terminate in a flat bottom, partially filled with debris. The plateau has separated from the mainland and moved across the flat surface of Rockall Trough while rotating 6°. Sides of the trough no longer stand vertical, having been highly eroded (Figure 6).

Figure 6: Cross section across Rockall Plateau starting at the center of Ireland.



Bibliography

Aelian (or Helian or Hadrian), Claudius; *Varia Historia*. Book 3, chapter 18, preserved a story by the ancient Greek writer Theopompus in *Philippica*: the warlike city of Machimus once sailed to conquer Hyperborea, but as the Meropes of Hyperborea were twice as tall and very pious, they decided not to. Maki ime-us 'Hill-wonder river'. Meri-oppi-s 'Sea-learning clan'

Allan, Derek S. (1917-) and J. Bernard Delair (1932-); (1997); *Cataclysm! Compelling evidence of a cosmic catastrophe in 9500 B.C.*; Bear & Co., Rochester, Vt. Average of 189 radiocarbon dates equals 9577 BC, attributed to near collision with Phaeton / Marduk, pp. 346-348.

Bancroft, Hubert Howe (1874); *Native Races*, Volume 3, p. 71. "Subsequently there came a great deluge, in which many of the gods perished." Mixtec legend.

Chimalpopoc Codex, tr. Abbe Brasseur de Bourbourg, from the Aztec language. "This is the **sun** called Nahui-atl, '4 water.' Now the water was tranquil for forty years, plus twelve, and men lived for the third and fourth times. When the sun Nahui-atl came there had passed away four hundred years, plus two ages, plus seventy-six years. Then all mankind was lost and drowned, and found themselves changed into fish. The sky came nearer the water. In a single day all was lost, and the **sun** Nahui-xochitl, '4 flower,' destroyed all our flesh. And that year was that of cecalli, '1 house,' and the day Nahui-atl all was lost. Even the mountains sunk into the water, and the water remained tranquil for fifty-two springs." Note the second sun '4 flower', ie. Nibiru.

Engels, Donald (1985); *The length of Eratosthenes Stade*; *American J. of Philology* 106 (3): 298-311. He presents the results of both Jean Antoin Letronne's analysis of the length of a stadion as 157 m, as well as Lev Vasilevich Firsov's averaging of 81 classical distances to obtain 157.7 m.

Northcote, Jonathan (2016); *16.484W 58.521 N Atlantis, Found?* Lulu, 2016, ePub. A lawyer from South Africa, Northcote correctly identifies Atlantis as Rockall Plateau by assuming Gadeira means Ireland, east of Atlantis. He reviews the dimensions of Rockall Plateau, and suggests they are close to those of Plato. After this promising start, he's stumped. The rest of the book wanders off into myths handed down from nearby countries, unlikely to be true because no one near by survived the tsunami.

Plato, Critias, translated by W.R.M. Lamb (1925), Harvard University Press, posted on the web by Annenberg CPB Project). Plato, the most influential philosopher of all time, lived to be 80, from 428 to 348 BC. After founding his academy at age 40, he taught until his death. Critias is

Sinking of Atlantis by Nibiru in 9577 BC: Part 1, discovery west of Eire

grouped among his last five dialogs, perhaps composed around 363 BC. He was noted from an early age as being exceptionally bright, and appears to have possessed total recall.

Plato, *Timaeus* (around 363 BC). The first half of the story of Atlantis.

Proclus (385 BC), *Commentary on Plato's Timaeus*, V1, Bk 1, On the Socratic State and Atlantis. He references *Ethiopian History* by Marcellus, all that remains of this lost book. At that time, Ethiopia was the land along the northwest coast of Africa. "There were seven islands in that sea, in their times, sacred to Proserpine, and also three others of an immense extent, one of which was sacred to Pluto, another to Ammon, and the middle of these to Neptune, the magnitude of which was a thousand stadia [1577 km]. They also add, that the inhabitants of it preserved the remembrance from their ancestors, of the Atlantic island that existed there, and was truly prodigiously great; which for many periods had dominion over all the islands in the Atlantic sea, and was itself likewise sacred to Neptune." Note: Demeter (L. Proserpine) and her husband Nef Tunis (L. Neptune) lived around 2000 BC, much too late, and does not belong. The commentary respecting the gods should be removed as propaganda.

Raubenheimer, Alewyn J. (2010); *Survivors of the Great Tsunami*; republished as *Chronicles from Pre-Celtic Europe*, 2014; published by Amazon.com. Raubenheimer finished his manuscript two months before he died. While looking for fabled Atland in the Frisian manuscript *Oera Linda Boek*, he discovered four medieval maps with a large island called Frisland that no longer exists. Where it should be lies the Faroe Islands. However, a thousand feet down lies the Faroe Plateau, whose outline matches that of the medieval maps, an island the size of Ireland.

Roberts, D. G. (1975); *Marine geology of the Rockall Plateau and Trough*; *Phil. Trans. Roy. Soc. London*, v. 278, pp. 447-509.

Roberts, D. G., L. Montadert, and R. C. Searle (1979); *The western Rockall Plateau: stratigraphy and structural evolution*; *Initial Rep. Deep Sea Drill. Proj.*, 48, pp. 1061-1088, 1979.

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Vinci, Felice (1995); *Omero nel Baltico*, reprinted in paperback as *The Baltic Origins of Homer's Epic Tales*, 2005, Inner Traditions, Vermont. From the List of Ships in Book 2 of the *Iliad*, Vinci matched a hundred names with places, in sequence. The Achaean heartland was Denmark and the Trojan heartland was Finland. Odysseus lived on the island of Lyo, Agammenon at Copenhagen, and Hector half way between Turku and Helsinki, near Perniö. Both sides spoke Finnish, and proper names in the *Iliad* translate into Finnish.

Sinking of Atlantis by Nibiru in 9577 BC: Part 2, Mechanics of Sinking

Stuart L Harris; August 2018

Carbondale, CO; Shirley, LI; Ellenville, NY; Columbia, SC; Reading, PA; Knoxville, TN

Shock from a strike by Nibiru turned two horizontal layers of quartz into a frictionless surface. The top half slid west into Rockall Basin, gathering speed as it went. It slid 175 km, lost 1.5 km of elevation, and reached 422 kph. Suddenly the sliding top regained friction and latched onto the bottom half. Momentum jerked the two pieces away from the continental shelf and across the Atlantic. As the plateau moved like a sheet of plywood through the sea, it lost energy from raising the sea. It finally stopped when the front edge dug into the bottom of the basin and rotated the plateau counter-clockwise 6 degrees. Above an area the size of Britain, the slide raised sea level an average of 1.5 km with a peak of 2.1 km.

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Summary

Rockall Plateau is 650 km long, 450 km wide and 2 km high; its top averages a kilometer below sea level, while its bottom rests on the flat surface of Rockall Basin, 3 km deep. Its eastern edge matches the continental shelf of Ireland, 218 km away.

The plateau consists of two overlapping sedimentary layers, a top half and a bottom half. By sliding the top half 175 km east over the bottom half, Atlantis pops out of the sea, about 400 m high. A mountain range crosses the north; in the center, farm lands measure 3000 stadia long by 2000 stadia wide from sea to sea. Its area measures in size between Libya and Asia as they were defined in 600 BC. Any trace of agricultural canals has vanished, but a feature in the southwest looks like a ship channel that ends in a circular lake.

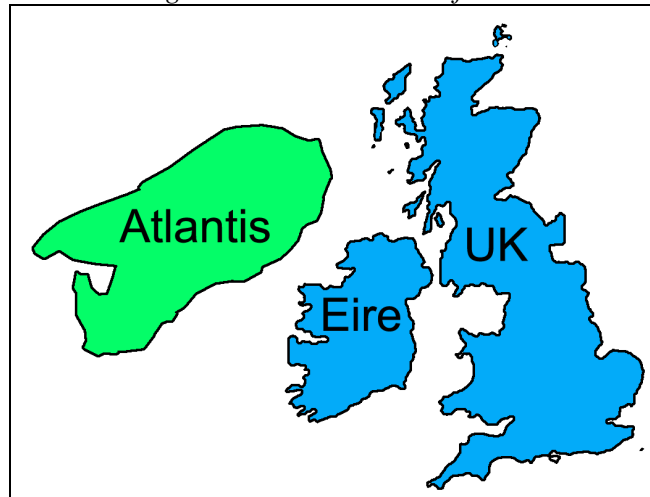
In Egypt, 4000 km away, shepherds in the mountains recalled the sequence: a terrible earthquake followed by a catastrophic flood that penetrated the Mediterranean Sea and lasted a day and a night. The earthquake resulted from an extra-terrestrial strike in Karelia by a satellite of Nibiru.

Sinking of Atlantis by Nibiru in 9577 BC: Part 2, Mechanics of Sinking

A separate satellite struck Atlantis, most likely killing everyone. Shock from the strike turned two horizontal layers of quartz into a frictionless surface. The top half slid west into Rockall Basin, gathering speed as it went. It slid 175 km, lost 1.5 km of elevation, and reached 422 kph.

Suddenly the sliding top regained friction and latched onto the bottom half. Momentum jerked the two pieces away from the continental shelf and across the Atlantic. As the plateau moved like a sheet of plywood through the sea, it lost energy from raising the sea. It finally stopped when the front edge dug into the bottom of the basin and rotated the plateau counter-clockwise 6 degrees. Above an area the size of Britain, the slide raised sea level an average of 1.5 km with a peak of 2.1 km.

Figure 1: Atlantis west of Eire.



Geology of Rockall Plateau and Basin

Until 1969, Rockall Basin was thought to be a volcanic layer, part of sea-floor spreading, while Rockall Plateau was some kind of volcanic eruption or a mini continent.

After oil was discovered in 1969, prospectors quickly determined that Rockall Basin and Plateau were not volcanic but sedimentary, the fundamental prerequisite for oil and gas. There followed a blizzard of papers until 1976, when papers on the geology of the North Sea ceased.

Before censorship, it was known that Rockall Plateau had somehow separated or rifted from the Continental Shelf. Perhaps the underlying strata had stretched and thinned, but sonar measurements found no such thinning; the underlying crust was intact. No mechanism for the rift was found, nor was the date of the rift established, with estimates varying from Late Jurassic to Pleistocene.

By law, companies had to submit drilling logs of their wells, but what they submitted is incomprehensible, such as British Geological Borehole Scans, where a single hole may have a hundred random pages filled with meaningless boiler plate and no charts.

One source suggested sandstones and shales in the southwest; limestones, localized metamorphic rocks with igneous outcrops in the center; and schist, gneiss and granite in the northwest. Wikipedia says a thin layer of basalt laid down 50-60 million years ago covers the entire region.

To model the Atlantis slide requires the average density of Rockall Plateau. If the bulk of the mixture is quartzite (2.65), feldspar (2.56), calcite (2.71), basalt (2.9), sandstone (2.55) and limestone (2.5), then perhaps the average is around 2.55.

First model of Atlantis slide

Cross section across Rockall Plateau shows the top half slipped west

A cross section across Rockall Plateau reveals two pieces, an eastern base and a western top that slid off the base (Figures 2 and 3). Both Rockall Plateau and the continental shelf are sedimentary deposits, 4 to 6 km thick for the continental shelf. When a satellite of Nibiru disintegrated and struck the Scandinavian ice sheet, one piece landed near or on Atlantis. The resultant shock converted a sloping sedimentary layer of quartz beneath the island into a frictionless material (see below). Without friction, the top half slid west into Rockall Basin.

Figure 2: Initial concept of the sinking of Atlantis. Cross section across Rockall Plateau shows how the upper part of the island might have slid into Rockall Basin. The problem is lack of a horizontal frictionless layer.

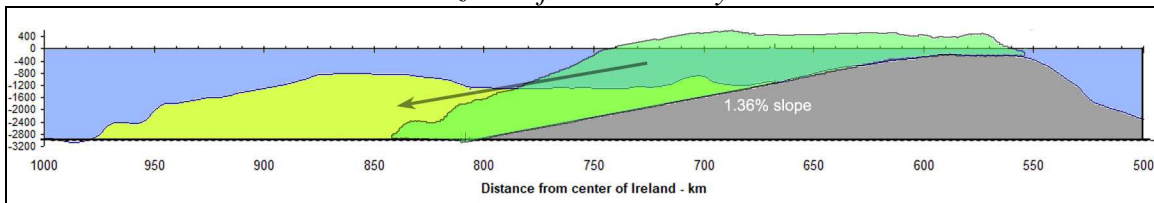
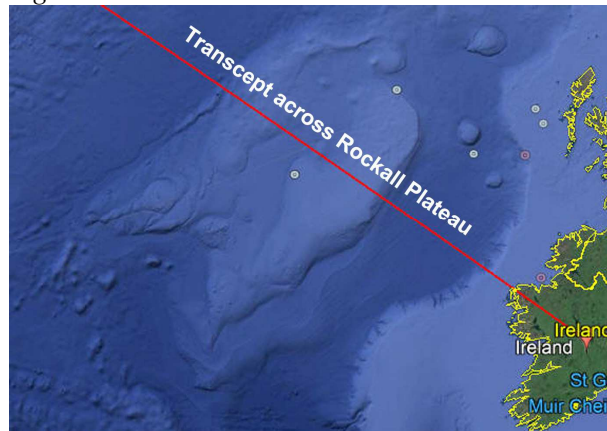


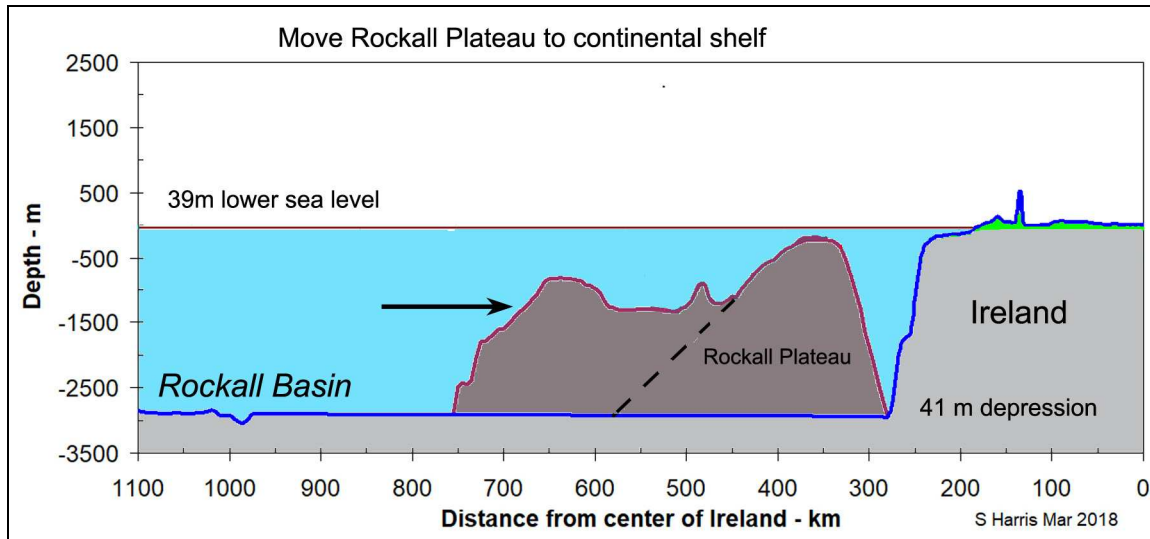
Figure 3: Cross section across Rockall Plateau.



To reconstruct the slide, first push the plateau back to the mainland (Figures 4 and 5).

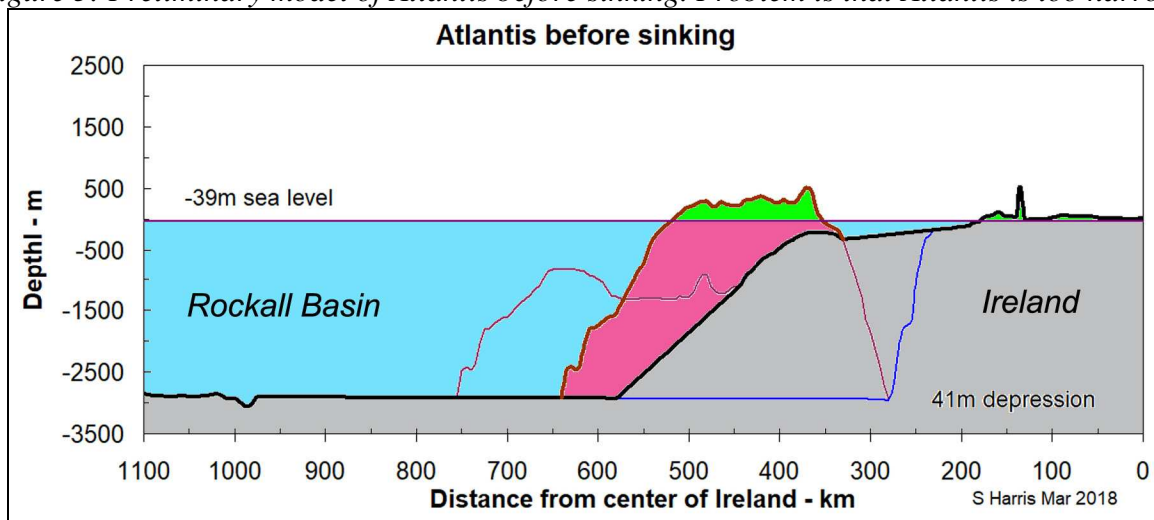
Sinking of Atlantis by Nibiru in 9577 BC: Part 2, Mechanics of Sinking

Figure 4: Rockall Plateau shoved up against the continental shelf of Ireland. This preliminary model does not push the plateau far enough.



Next slide the western half back to its original position (Figure 5). Atlantis rises out of the sea.

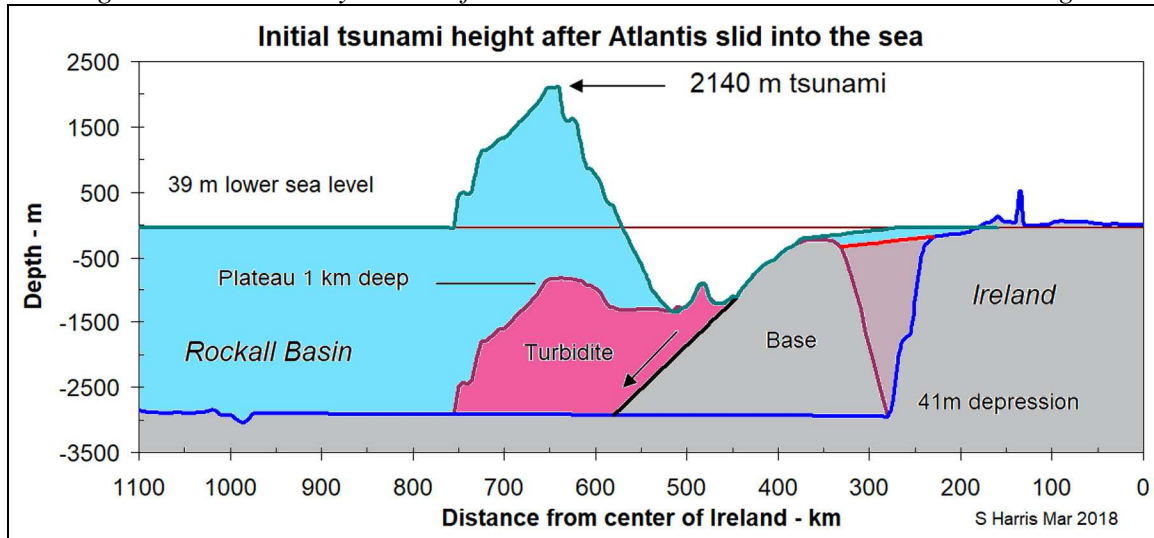
Figure 5: Preliminary model of Atlantis before sinking. Problem is that Atlantis is too narrow.



Without accounting for loss due to raising sea level, Atlantis would have accelerated down a 1.34% slope for 120 km and reached 475 kph in 26 minutes (Figure 6). But this model has problems.

Friction of sedimentary novaculite quartz went to zero

Figure 6: Preliminary model of the Atlantis slide created a tsunami 2.1 km high.



Friction of sedimentary novaculite quartz went to zero

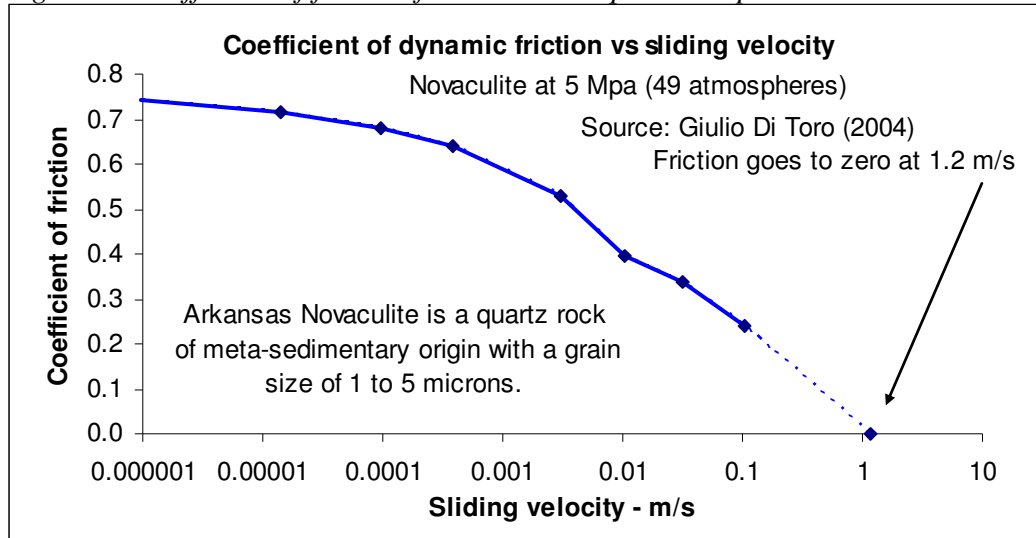
Guilio Di Toro, David Goldsby and Terry Tullis discovered that at moderate pressure, the coefficient of friction for Arkansas novaculite goes to zero for speeds above 1.2 meters per second (Figure 7). This contrasts with most rocks, whose coefficient of friction remains constant with velocity. Novaculite is a form of quartz found in flat sheets of sedimentary origin. To date, novaculite is the only material that exhibits this property. Therefore, the frictionless surface should be horizontal, parallel with the sedimentary layers.

After the experiments, the fault surface is covered by white 'flakes', 10 mm thick, of ultra-comminuted gouge. We presume there is a large amount of amorphous silica in these flakes because examination via transmission electron microscopy of gouge flakes produced in friction experiments on quartz rocks with low slip displacements and sliding velocities shows that the gouge consists of quartz fragments and amorphous silica. However, the amorphous silica alone cannot account for the extraordinary weakening, because at low sliding velocities the friction coefficient is 0.6–0.8. Nor is it from melting, because the melting point of cristobalite is 1,713°C at room pressure; neither the average nor flash temperatures are high enough to induce melting.

The weakening appears to be due to weak, fluid-like behavior of a tribolayer of silica gel, the production of which appears to require water from and probably the presence of amorphous silica. The recovery of frictional strength has a time constant of 100 s; the fact that strength recovery is not instantaneous rules out the other weakening mechanism that could be caused by a weak fluid, namely elasto-hydrodynamic lubrication (Toro, 2004).

Sinking of Atlantis by Nibiru in 9577 BC: Part 2, Mechanics of Sinking

Figure 7: Coefficient of friction for novaculite quartz drops to zero above 1.2 m/s.



Second model of Atlantis slide

Problems with first model

The initial model of the Atlantis slide had three problems:

- the width of Atlantis was too narrow, well under 2000 stadia;
- it lacked a zero-resistance sedimentary plane parallel to the flat bottom of Rockall Basin;
- it did not account for drag from the force required to lift the sea.

Two-thirds of Rockall Plateau had to be above sea level to satisfy Plato. At first the geometry seemed impossible, but repeated trial and error solved the problem: two slip planes, two slide surfaces and pushing the plateau further east across the joint between plateau and continental shelf (Figure 8). An important insight: as the slide progressed, the steep western face filled with debris, which caused the slope to ease and avoided a 3 km spike in sea level.

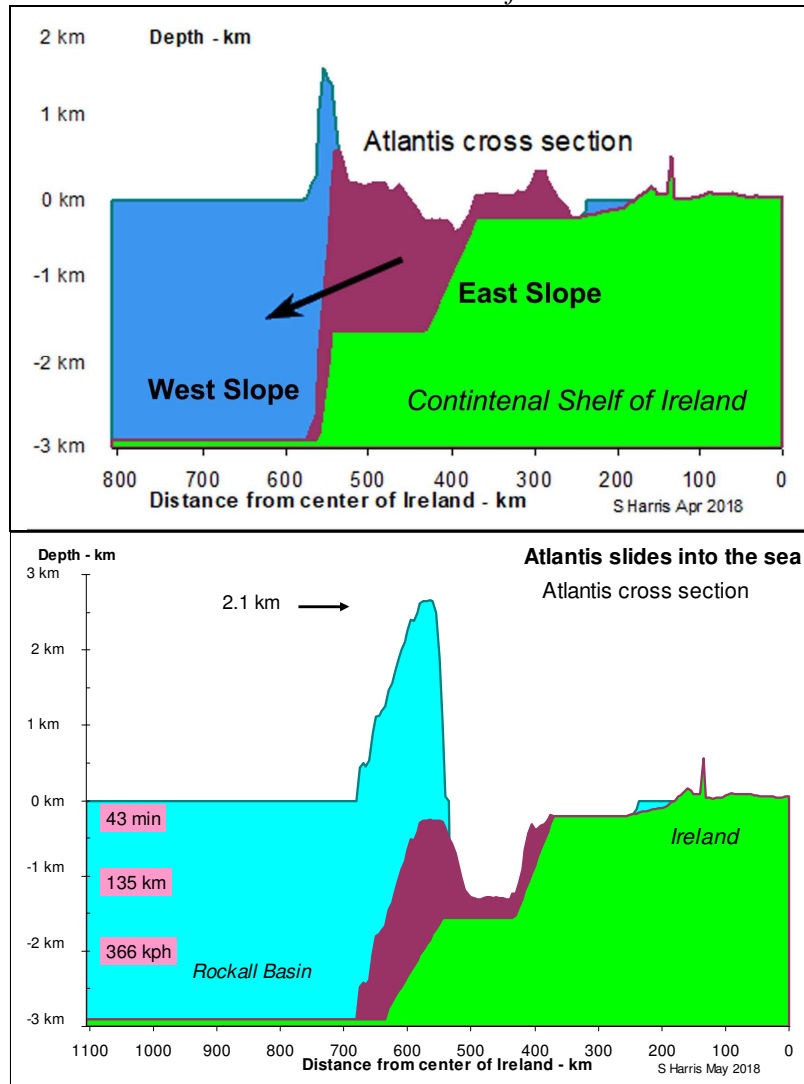
Second model comparison

Compared to the first model, distance moved by the slide increased from 120 km to 175 km, width of Atlantis increased from 175 km to 291 km, top speed dropped from 475 kph to 422 kph (117 m/s), time to sink increased from 26 minutes to 47 minutes.

The width of 291 km lies between the width of Libya (280 km) and 2000 stadia (314 km).

Second model of Atlantis slide

Figure 8: Cross-section of Atlantis attached to the continental shelf west of Ireland. Two slopes, east and west, supplied energy to propel Atlantis into Rockall Basin. Two frictionless, horizontal surfaces offered no resistance. Mass above the slopes contributed to acceleration, while raising water above sea level subtracted from acceleration.



The eastern slope provided initial acceleration.

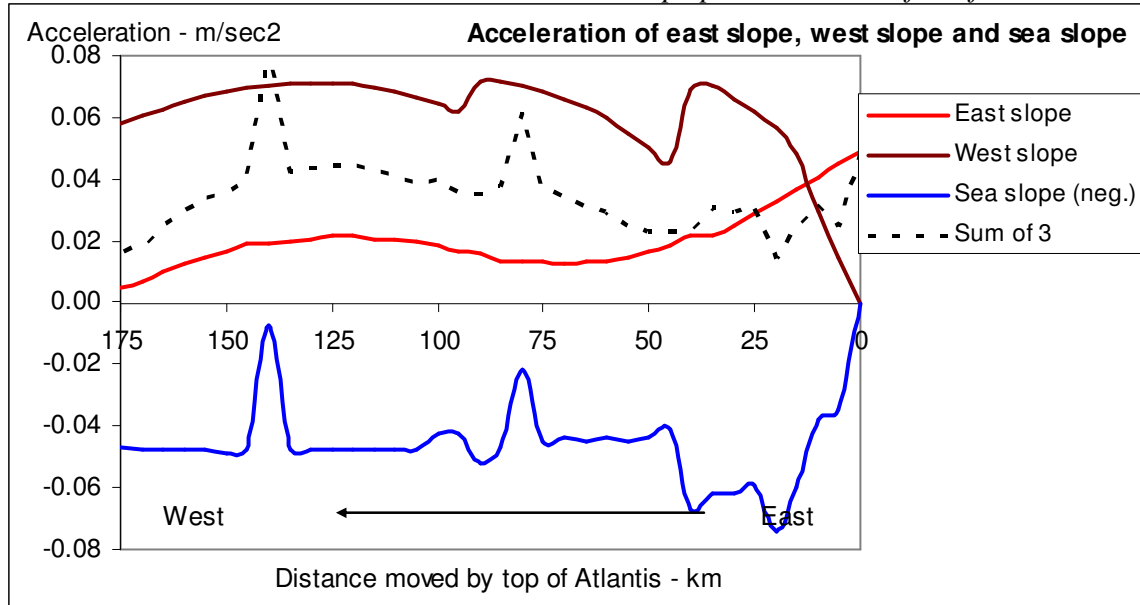
The western slope was under water, so to calculate acceleration, the density of sedimentary rock (2.55) must be reduced by a weighting factor of $(2.55-1.0)/2.55 = 0.607$.

An abruptly changing western slope, as well as varying amounts of Atlantis above it, created a zig-zag shape of acceleration (Figure 9). To estimate slope, I worked from the end to the beginning, and assumed that land above was roughly constant in thickness.

How to model lifting of ocean water was solved by recognizing that the leading face of the slide was also an inclined plane, which could therefore generate negative acceleration.

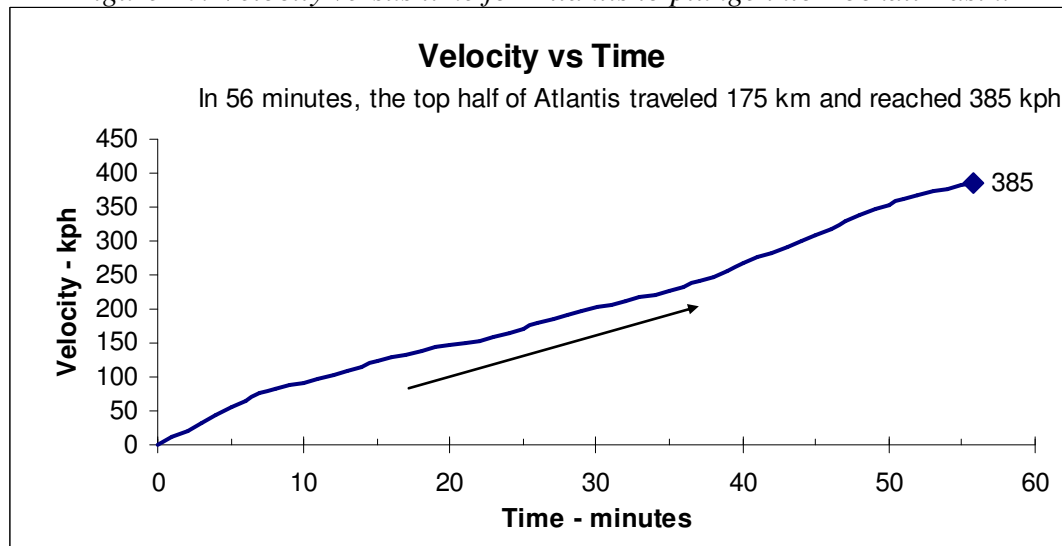
Sinking of Atlantis by Nibiru in 9577 BC: Part 2, Mechanics of Sinking

Figure 9: Acceleration of Atlantis from two slopes of the continental shelf less force to lift the sea. The eastern slope provided the initial force, barely offsetting the force required to lift the sea. Once the slide started, the western slope provided most of the force.



Subtracting the force required to lift the sea slowed final velocity to 385 kph. (Figure 10).

Figure 10: Velocity versus time for Atlantis to plunge into Rockall Basin.



Separation from continental shelf

After accelerating for 175 km, the sliding top regained friction, latched onto the base and ripped it from the continental shelf. Velocity slowed down by the ratio of the square root of the two masses.

$$KE = \frac{1}{2}mv^2 = \frac{1}{2}MV^2$$

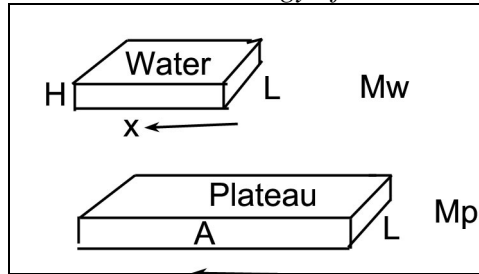
$$V^2 = v^2(m/M) = v^2(A_{\text{top}}/A_{\text{combined}})$$

$$V = 385 \text{ kph} * (249 \text{ km}^2 / 575 \text{ km}^2)^{1/2} = 385 * 0.658 = 253 \text{ kph} \Rightarrow 70 \text{ m/s}$$

Momentum of sliding top carries island west

The interface between Rockall Plateau and Rockall Basin exhibited close to zero friction. Any friction at all would have brought the plateau to a quick stop, but instead, it went on until the leading edge caught on the southwest corner, spun the plateau 6 degrees counterclockwise, and rebounded slightly. Water resistance had little impact because of how thin the plateau was in relation to its width, thinner than a knife, but raising the sea 1½ km did cause drag. A volcano in the north-east corner remained anchored to the basin floor.

Figure 11: Model of plateau travel across Rockall Basin. Kinetic Energy of the plateau was converted to Potential Energy of raised sea water.



Both pieces moved as a unit across Rockall Basin for 218 km. The gain in Potential Energy equaled the loss in Kinetic Energy.

$$d(PE) = d(KE)$$

$$d(PE) = \frac{1}{2} H g M_w$$

$$= \frac{1}{2} H g (\rho_w H L x)$$

$$d(KE) = \frac{1}{2} M_P (v_0^2 - v_x^2)$$

$$= \frac{1}{2} (\rho_P A L)(v_0^2 - v_x^2)$$

$$H = \text{height of raised sea} = 1.6 \text{ km}$$

$$g = \text{gravity} = 9.8 \text{ m/s}^2$$

$$\rho_w = \text{density of water} = 1$$

$$\rho_P = \text{density of plateau} = 2.55$$

$$L = \text{length of plateau} = 650 \text{ km}$$

$$x = \text{distance slide has traveled, in km}$$

$$A = \text{cross section area of plateau} = 575 \text{ km}^2$$

$$v_0 = \text{initial velocity of plateau} = 70 \text{ m/s, } 253 \text{ kph}$$

$$v_x = \text{velocity at distance } x, \text{ in m/s}$$

Setting the two sides equal, crossing out identical items, and letting the density of water = 1,

$$H^2 g x = \rho_P A (v_0^2 - v_x^2)$$

Solving for velocity,

$$v_x^2 = v_0^2 - \frac{g H^2 x}{\rho_P A} \text{ m}^2/\text{s}^2$$

$$= (70 \text{ m/s})^2 - [(9.8 \text{ m/s}^2)(1.6^2 \text{ km}^2/575 \text{ km}^2)(1000 \text{ m/km})/2.55](x \text{ km})$$

$$= 4900 - [(9.8 * 1.6 * 1.6 * 1000)/(575 * 2.55)]x$$

$$= 4900 - 17.1x$$

$$= 17.1(286 - x) \text{ m}^2/\text{s}^2$$

Taking the square root gives meters per second, while multiplying by 3.6 gives kph.

$$v_x = 4.13(286 - x)^{1/2} \text{ m/s, or } 14.9(286 - x)^{1/2} \text{ kph}$$

For $x = 218 \text{ km}$, velocity = 123 kph

To calculate time, use the equation: distance = (average velocity)*(time)

$$x = \frac{1}{2} (v_0 + v_x)t$$

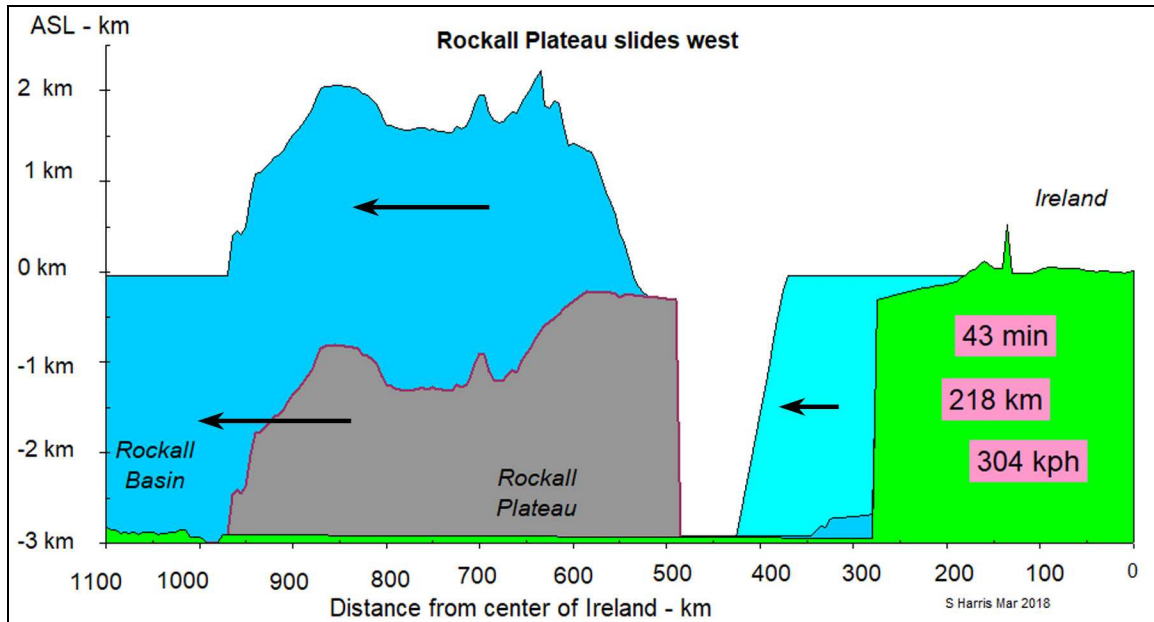
$$t = 120 x / (v_0 + v_x) \text{ minutes, with } x \text{ in km, } v \text{ in kph}$$

For $x = 218 \text{ km}$, $v_0 = 253 \text{ kph}$, $v_x = 123 \text{ kph}$

$$t = 120 * 218 / (253 + 123) = 70 \text{ minutes}$$

Sinking of Atlantis by Nibiru in 9577 BC: Part 2, Mechanics of Sinking

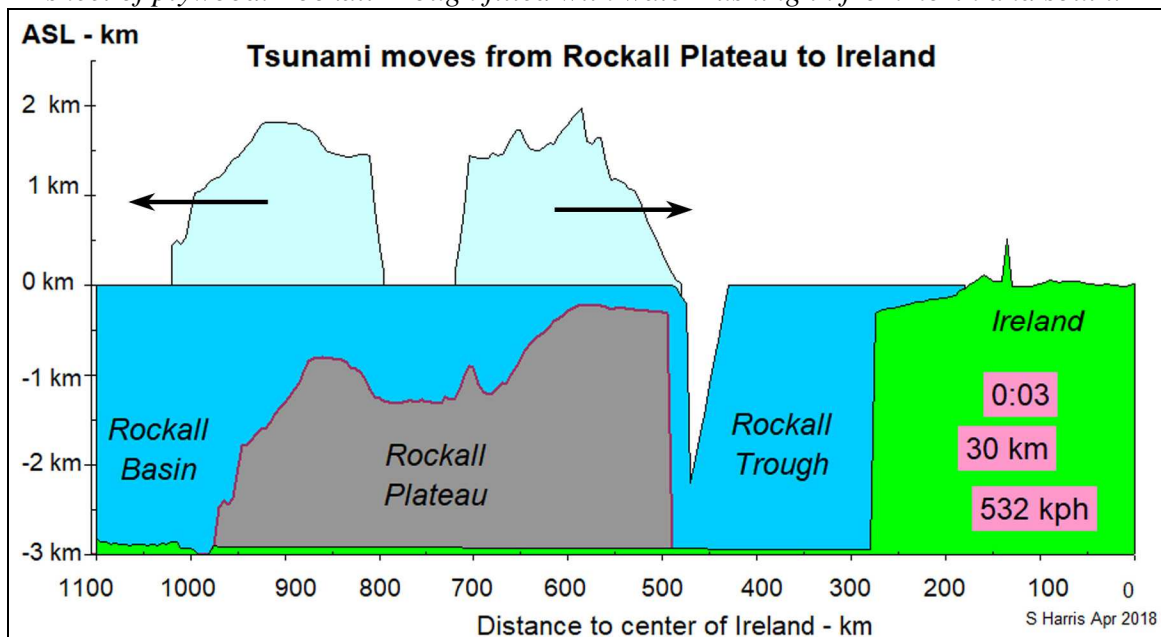
Figure 12: Separation of Rockall Plateau from Ireland. In seventy minutes, the plateau moved 218 km. Inrush from north and south began to fill Rockall Trough. Above the plateau, sea level rose an average of 1.6 km across an area of 400 km by 650 km, with a maximum height of 2100 m.



2.1 km tsunami leaves Rockall Plateau

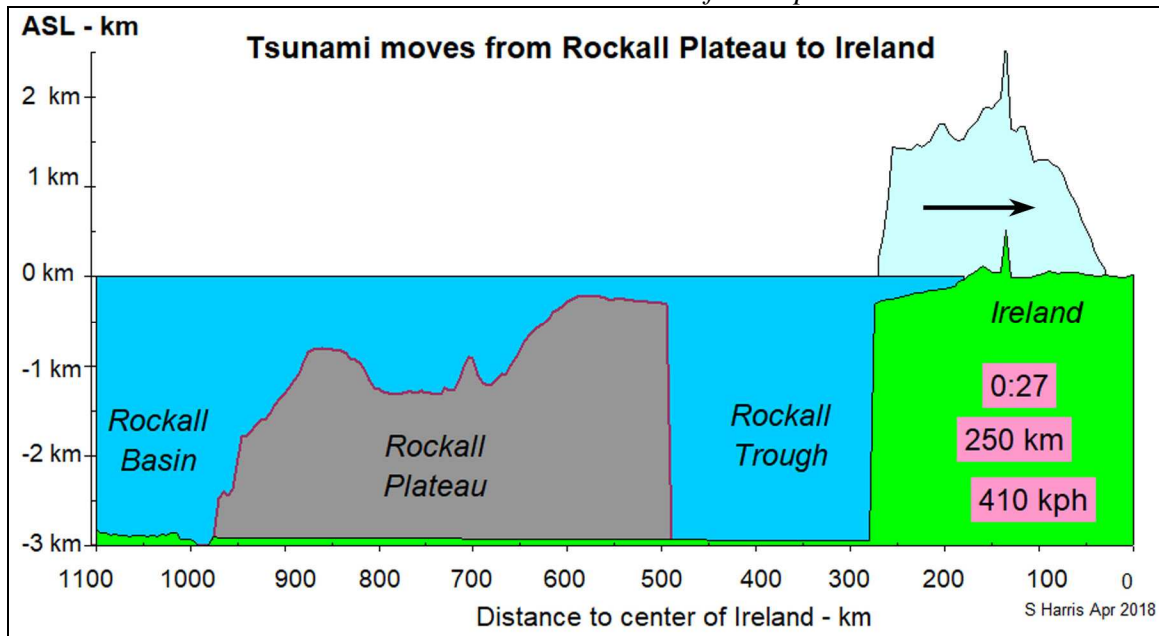
Beginning with a peak height of 2.1 km and an average height of 1.6 km over an area the size of Britain, the tsunami moved out in all directions.

Figure 13: After the plateau stopped moving, the sea above the plateau separated and moved out in all directions. The vertical scale greatly exaggerates the tsunami height; it was like a 1/4 in sheet of plywood. Rockall Trough filled with water rushing in from north and south.



Reconstruction of Atlantis before sinking

Figure 14: A half hour later, the tsunami began to cross Ireland at 410 kph, its average height still about 1.6 km because of run-up.



Reconstruction of Atlantis before sinking

To reconstruct Atlantis, move the pieces of Rockall Plateau back together, then move the assembled island back to the continental shelf (Figures 15 to 20).

Figure 15: (1) island top, (2) island base upper, (3) mountain range, (4 and 5) island base lower.

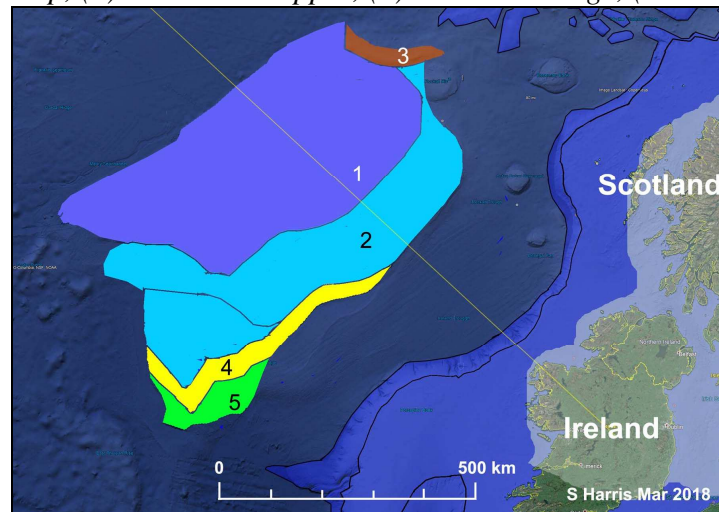


Figure 16: Move mountain range to continental shelf.

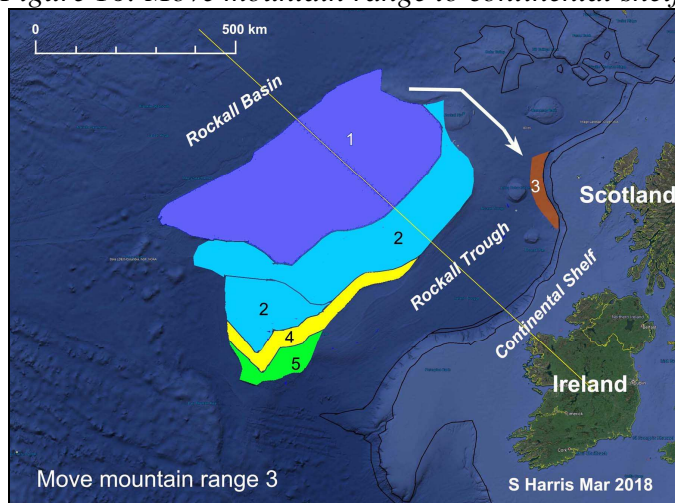


Figure 17: Move island top to cover island base.

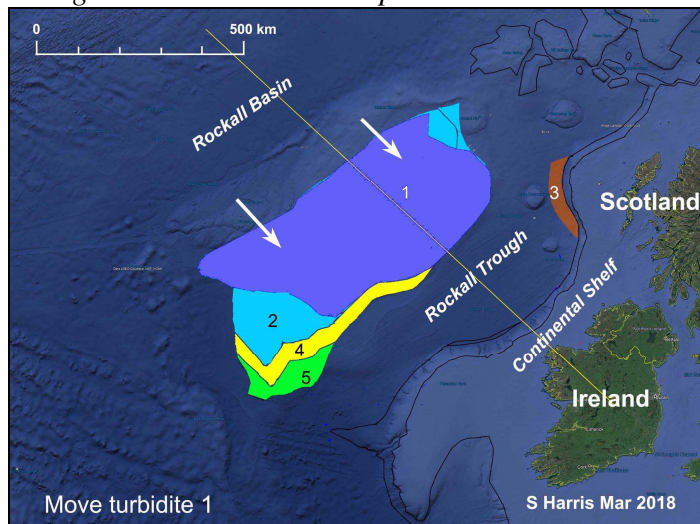


Figure 18: Move island back to continental shelf.

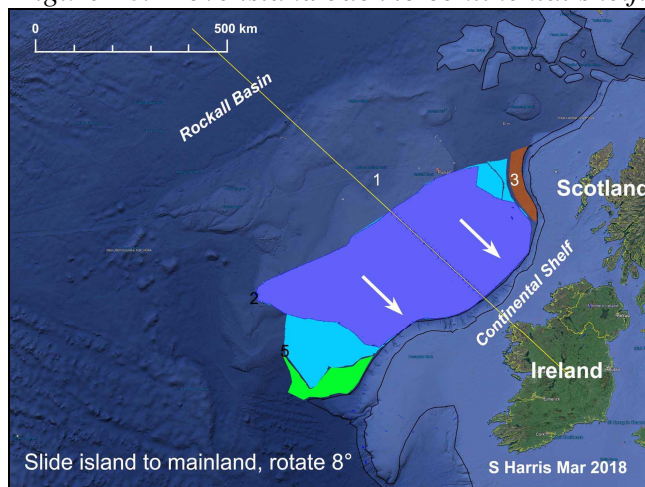
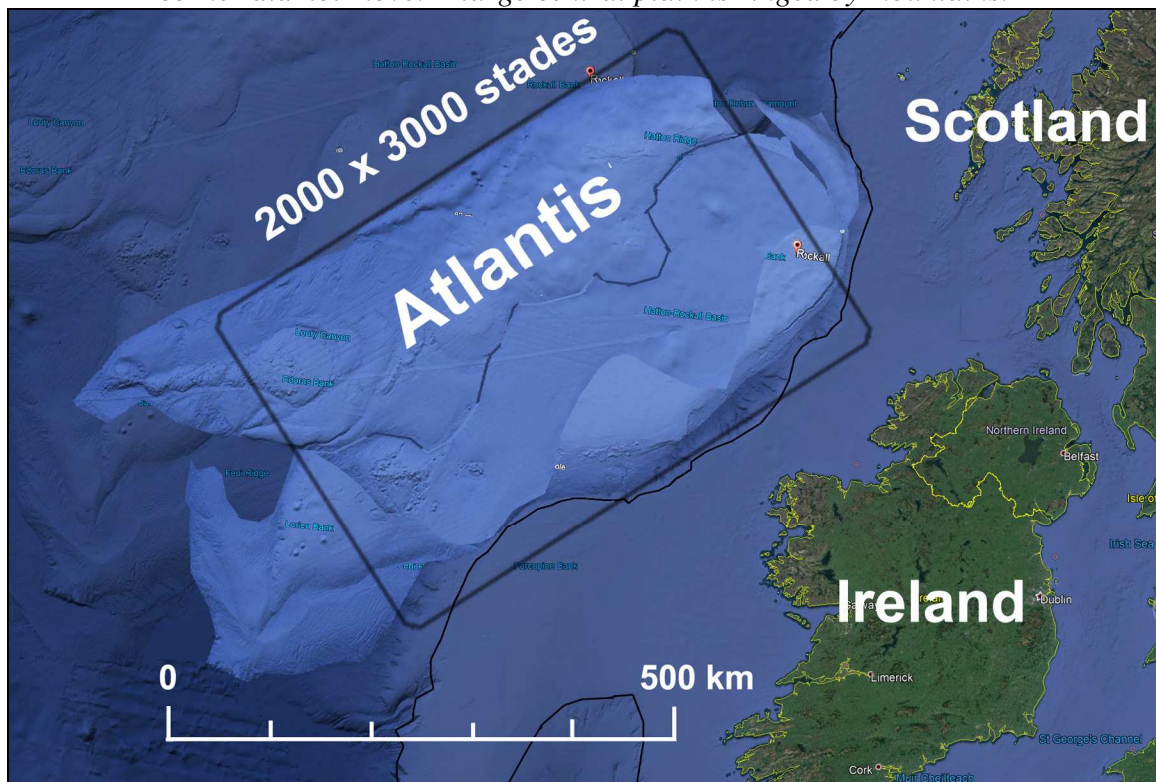


Figure 19: Assembled island moved back to the continental shelf. The volcano in the north-east corner did not move. A large central plain is ringed by mountains.



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Sinking of Atlantis by Nibiru in 9577 BC

Part 3: Nibiru sinks Atlantis

Stuart L Harris; July 2018

Carbondale, CO; Shirley, LI; Ellenville, NY; Columbia, SC; Reading, PA; Knoxville, TN

In 9577 BC, at the spring equinox in the southern hemisphere, planet Nibiru flew past Earth and unleashed a satellite, whose impact sank Atlantis west of Eire. At the same time, this or a separate strike caused Earth's apparent axis of rotation to begin to flip. This second satellite was at least 1/2 km in diameter and struck obliquely, possibly between Antarctica and New Zealand, whose facing coast suffered massive flooding. Other satellites struck Karelia near Finland and the north coast of Alaska. The Karelian strike ablated the Scandinavian Ice Sheet and melted enough ice to raise sea level by 3 meters.

From the perspective of Earth, the poles soon swapped position, accomplished by the seas moving one way toward a new pole, and Earth rotating in the opposite direction to conserve angular momentum. When the seas settled down, the axis of Earth still pointed at the North Star and the equatorial bulge remained at the equator, but the northern hemisphere had changed places with the southern hemisphere. In this way, England, which was located in the southern hemisphere, experienced the flyby in the spring when many animals had just given birth.

The combination of Atlantis sinking, the pole shift and multiple satellite strikes created tsunamis in both the Atlantic and Pacific Oceans. The Atlantic tsunami packed great numbers of young animals into sea caves along the Atlantic coast of Britain.

After a great flood that lasted one day, ancestors of Toltecs in Mexico observed a new sun that rose in the opposite direction. Ancestors of Egyptians devised a new calendar that began in 9497 BC. Preserved on the ceiling of Senenmut's Tomb, this calendar marks time in 20-year increments with a five-pointed star that represents each passage of Nibiru. Nibiru, the fifth body from the Sun, was likened to a sun because of its great outpouring of heat and light. During each flyby, Earth suffered from its tremendous heat.

Four stars and one year later, in 9416 BC, Nibiru crippled *Mut* ('Mother', Tiamat) by bombarding her with debris called 'spears' and a moon, according to two Sumerian sources. At the same time, Nibiru acquired Tiamat's largest moon, named Kingu on a clay tablet and Hand of Mother on a cylinder seal.

One star later, in 9417 BC, Nibiru flew past Earth and lost its newly acquired moon, which became our present Moon, in a lower orbit. A year later, it passed

Sinking of Atlantis by Nibiru in 9577 BC Part 3: Nibiru sinks Atlantis

even closer to Tiamat and flung one of its remaining big moons directly into her bowels. This impact plus its greater gravity caused the mother planet to explode. An Egyptian calendar in Senemet's Tomb noted the ascendancy of planet *Aset* (Nibiru) to the ruling throne of the planets, symbolized with a throne that it retained until death.

An expanding shell of fragments from Tiamat bombarded Earth. As Earth rotated, its population experienced half a day of incessant strikes, half a day of calm. For protection, survivors built tunnels and underground cities. Fragments and dust surrounded the Sun and blocked its rays.

For the next 220 years, each passage of Nibiru bombarded Earth with fiery hailstones. The Egyptian calendar marked each passage with a star but no other description.

Two Sumerian accounts exist, one written in cuneiform on clay tablets, the other in Old European on cylinder seal VA-243. The latter calls Tiamat *Äiti* meaning 'Mother', Nibiru *Sää* meaning 'Storm', Earth *Maa* meaning 'Earth', and Moon *Kuu* meaning 'Moon', plus many epithets including 'Hand of Mother'.

In 6937 BC, its last flyby past Earth, Nibiru flung Mars out of its tenuous orbit around Earth into a two-year elliptical orbit around the Sun. This interaction altered its course just enough that Nibiru hit Jupiter dead center. The Egyptian calendar pictures the plunge of *Aset* (Nibiru) into Jupiter circa 6935 BC. Numerous sources relate the expulsion of part of its rocky core on the opposite side to become Venus. The impact triggered a momentous nuclear explosion of heavy hydrogen that blew out the impact site on Jupiter, drawn as a sequence of ever-expanding bulges during the next three days. The impact site became the Red Spot, whose roots extend to Jupiter's core.

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Nibiru is the third of four papers on Atlantis:

- 1: Discovery
- 2: Sinking
- 3: Nibiru
- 4: Destruction

Nibiru: summary of major events

Emilio Spedicato (2011) identified the body whose satellite struck Atlantis as Nibiru, a planet ten times the size of Earth, glowing fiery hot like a sun, with four large moons and a cloud of debris like a comet. Nibiru followed a twenty-year, elliptical, retrograde orbit that carried it past Jupiter at one extreme and intercepted Earth and Tiamat at the other. Beginning in 9677 BC, its orbital plane aligned with that of the inner planets, making it a constant nemesis. Every twenty years, Earth passed through Nibiru's dust cloud and cooled.

Nibiru approached Earth from the direction of Aries, the first house of the Zodiac, no matter which way the poles were oriented. This is confirmed by cylinder seal VA-243, which shows the approach of Nibiru to Earth from the direction of a ram. Each of the original twelve houses of the Zodiac represented one Earth year in the orbit of Jupiter, Father of the solar system. The start of a new year in early calendars was either the spring equinox with the pole pointing up towards the North Star or the fall equinox with the north magnetic pole pointing down. These dates echoed the time when Nibiru crossed the path of Earth at the equinox.

Atlantis sank in the spring at the latitude of the UK, based on great numbers of young animals smashed to pieces in sea caves along the Atlantic coast. According to Sumerians, the date was an equinox because *nibiru* means 'the crossing' or 'the turning point', the division between two seasons. In order for Nibiru to approach Britain in the spring from the direction of Aires, the poles had to be reversed. According to Mixtec history, at the time of a great flood that lasted one day and wiped out most men, a second sun scorched the Earth, created the flood, and reversed the poles.

In 9677 BC, a century before Atlantis, ice cores from Greenland began to record temperature drops every twenty years, accompanied by occasional impacts. As Nibiru passed by, Earth would acquire some of its mantle, which cooled the climate for a few years.

In 9637 BC, a close passage of Nibiru ended the Younger Dryas by heating the planet. Over the next sixty years, average temperature climbed 16°C, with pauses every twenty years. How temperature could rise so fast is the subject of much debate. Alan and Delair (1995) proposed a gravitational tide from Nibiru, which lifted the Tibetan Plateau 3000 m, dated around 9600 BC. A map of elevation contours around Tibet requires that the poles be reversed in order for the axis of the uplift to lie in the same orbital plane as Nibiru, in agreement with Mixtec observations. The southern edge of the uplift exposed a 50 km wide stripe of crumbly-textured land 1800 km long, the Shivalik Hills, which form the southern foothills of the Himalayas. Crossed by numerous rivers, these hills are highly enriched in soluble arsenic, which causes much difficulty with water supplies downstream.

9577 BC is the proposed year for Nibiru to sink Atlantis. The exact year is critical to Earth's history because of measured offsets in increments of twenty years. Solon heard the story about 9000 years later in 574 BC; 189 radiocarbon dates from damage caused by widespread tsunamis average 9577 BC; Greenland temperature declined steeply the next year, 9576 BC; a spike in

Sinking of Atlantis by Nibiru in 9577 BC Part 3: Nibiru sinks Atlantis

ammonium in GISP2 ice core in 9577 BC indicated an extra-terrestrial strike; sea level jumped 3 meters around 9575 BC from ablation of the Scandinavian and Alaskan ice sheets.

The shock liquified two horizontal planes that allowed the entire top half of Atlantis to slide into Rockall Basin. The resulting tsunami drowned coasts around the Atlantic Ocean, the Black Sea and eastern Mediterranean Sea. Another strike between Antarctica and New Zealand flooded the south coast of New Zealand. One of these strikes, by an object at least ½ km in diameter, caused a pole reversal.

9497 BC begins the Egyptian calendar. Emilio Spedicato recognized an image of the impact of Nibiru upon Jupiter in Senenmut's Tomb. This impact expelled Venus, which occurred 1,366,560 days before the start of the Mayan calendar in 3114 BC. In 3500 BC, a typical calendar had 360 days. If the average year over the previous 3500 years had 357.6 days, then 3821 years elapsed, giving $3114 + 3821 = 6935$ BC for the impact. Two years earlier, Nibiru passed Earth in 6937 BC. Each five-pointed star represents a pass by Nibiru, whose period was $3600/180 = 20$ years. If the calendar began 128 stars (2560 years) earlier, then year zero was 9497 BC.

In 9416 BC, four stars and one year later, Nibiru crippled Mut ('Mother', Tiamat) by bombarding her with satellites that cracked her open. At the same time, Nibiru acquired the largest of Tiamat's seven moons, called Kingu, or Hand of Mother. This according to two Sumerian sources.

In 9397 BC, one star later, Nibiru flew past Earth and lost its newly acquired moon, which became our present Moon, a gift from Mother to light Earth's skies at night. Its orbit was lower and consequently brighter, with a period of 23 days, depicted as 23 spikes on the horns of Aires the Ram on cylinder seal VA-243.

In 9396 BC, a year later, Nibiru passed even closer to Tiamat-Mut and flung one of its four big moons directly into her bowels. This plus Nibiru's gravity caused Tiamat to explode. The Egyptian calendar noted the ascendancy of planet Aset (Nibiru) with a throne, which became its symbol. By destroying Mut, Aset became the ruling deity.

Around 9394 BC, an expanding shell of debris pummeled the side of Earth facing Tiamat's last position. Much of Earth expired on the first encounter, caught out in the open. As Earth rotated, half a day was subject to bombardment, half a day not. So much debris circled the Sun that its rays were partially blocked. For protection, people dug tunnels and underground cities. Over the next 220 years, the Egyptian calendar lay silent, only noting each passage of Aset-Nibiru. The Asteroid Belt represents a small fraction of Tiamat's remains.

In 9377 BC, Storm-Nibiru again approached Maa-Earth, bent on revenge for stealing Kuu-Moon, promising to fling a shower of spears at Earth. As Nibiru passed Earth, a heavy fall of fiery hailstones scorched the land. "Empty of men, of trees, and food as well. I am left of ten thousand. Hailstones smashed the ten, and most of the fodder for sheep."

In 6937 BC, on another close passage, Nibiru flung Mars, a moon of Earth, into space. This altered Nibiru's course just enough that its orbit now intersected that of Jupiter.

In 6935 BC, Nibiru plunged directly into Jupiter. The impact expelled part of Jupiter's rocky core which became Venus. Nuclear fusion of tritium blew out the entry side of Jupiter to three times its diameter in three nights. The impact increased Jupiter's orbit a small percentage; Earth plus new Moon adjust their orbit to remain locked with Jupiter.

First four planets and their periods

The key to understanding Nibiru is that its period was not 3600 years as deciphered by Zecharia Sitchin (1990), but 20 years, equal to $3600/180$. This division by 180 holds true for all Sumerian large numbers, such as how long a king reigned, an important discovery by Emilio Spedicato (2012).

In 9600 BC, just four inner planets circled the Sun - Earth, Tiamat, Jupiter, and Nibiru. All were in resonant orbit with Jupiter (Table 1). Tiamat aligned with Jupiter every 6 years. Earth aligned with Jupiter every 12 years. Nibiru flew past Earth every 20 years, Tiamat every 20 years, and Jupiter every 60 years. Every 60 years, Nibiru flew closer to Earth when the three planets aligned.

These four measures, 10, 12, 20 and 60, form the basis of many early calendars, clocks, monetary systems, length, weight and computation schemes that continue in use today. For example, twelve houses of the zodiac, 360 degrees in a circle, 60 minutes in a degree, 60 seconds in a minute; 12 inches in a foot, six feet in a fathom; 12 months in a year, 24 hours in a day, 60 seconds in an hour, 60 seconds in a minute; a dozen eggs; a score of years; 60 shekels in a mina, 60 minas in a talent.

Table 1: Four inner planets, their period and distance from the Sun, in 9600 BC.

Planet	Period Years	Major semi axis AU
Earth	1	1
Tiamat	4	2.52
Jupiter	12	5.24
Nibiru	20	7.36

Nibiru: a second sun

The body that caused Atlantis to sink was called Second Sun by natives of Mexico, Storm by early Sumerians, Nibiru by late Sumerians, Aset by Egyptians, Isis by Greeks:

Sää 'Storm' by early Sumerians

Nibiru 'The Turning, The Crossing' by late Sumerians

Aset 'Weapons' in Egyptian

Isis in Greek

Nahui-Xochitl '4-flower' in Mexico; the first sun after the pole shift was called '4-water'.

The calendar of Senenmut's Tomb represents Aset-Nibiru as a five-pointed star or sun. At the beginning of the Egyptian calendar, Aset was the fifth body from the Sun.

1 Urð 'Earth', Keb or Seb 'Earth', Maa 'Earth'

2 Old Moon of Earth, later to become Mars

3 Tiamat 'Mother', Mut 'Mother', Äiti 'Mother'

4 Jupiter 'God father', Amun 'Father', Taata 'Father'

5 Aset 'Weapons', Nibiru 'The Crossing, Marduk 'Bull calf of the sun god Utu', Sää 'Storm'

Mercury, Venus and Mars were not yet planets.

Old Moon of Earth, which later became Mars, circled Earth three times a year. Its great distance from Earth provided a dim light, a 10th of Moon (Spedicato 2012)

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Sumerian cylinder seal VA-243 represents the Sun as a six-pointed star whose emanating rays are partially blocked by debris from the explosion of Tiamat (Figure 1).

Nibiru had about ten times the mass of Earth.

Sho Lin Li of the Astronomy Department of Peking University calculated the mass of the body needed to create the Red Spot of Jupiter as ten times that of Earth (Spedicato, 2012)

Tiamat was larger than Earth, smaller than Nibiru, perhaps 3 times the mass of Earth.

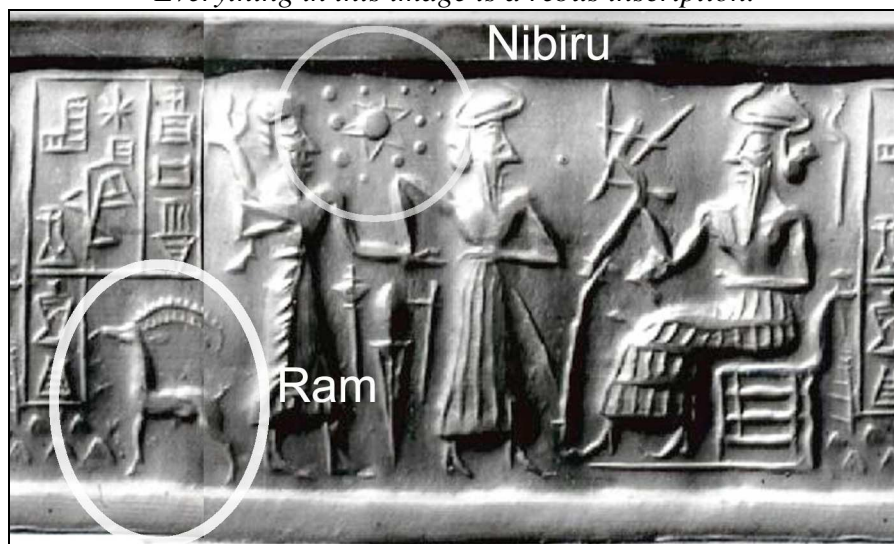
Nibiru had a narrow, retrograde orbit with a period of 20 years according to Sumerian texts, Senemet calendar, and Greenland ice cores (below). The Egyptian calendar is based upon this period.

By Kepler's third law, its major axis was 7.4 AU long, between Jupiter and Neptune.

Tiamat had seven moons; Nibiru had four moons plus numerous satellites.

Nibiru approached Earth from the direction of Aires the Ram (Figure 1).

Figure 1: Sumerian cylinder seal VA-243 depicts Nibiru bringing Moon to Earth from the direction of Aires the Ram. The sun is a six-pointed star surrounded by debris from Tiamat. Everything in this image is a rebus inscription.



Nibiru had a thick veil of dust like a comet.

At every revolution, Earth passed through and acquired this dust, which occluded the skies and caused the temperature of Greenland to cool.

The first cooling year was 9677 BC.

The last cooling year was around 6920 BC, one revolution after Nibiru plunged into Jupiter. Much of its debris escaped the gravity of Jupiter and continued to follow the basic course of the deceased planet, but closer in.

Nibiru shone like a sun. Mayans called it a second sun named '4 flower'.

At the time of the Atlantis flood, '4-flower' scorched the Earth.

Nibiru's orbital plane coincided with that of Earth, Tiamat and Jupiter.

Nearly every time it passed Earth, a small satellite or two would incinerate some part of the globe. If it was over a northern forest, firestorms would create a sharp spike of ammonium (NH₄) in Greenland ice cores.

Every 60 years, an alignment with Jupiter and Tiamat wrecked additional havoc on Earth. This stopped after Tiamat was destroyed.

Nibiru passed Earth on the Sun side, a stable configuration, but one that enveloped Earth in its shroud of particulates.

The Egyptian sound ST, a throne in profile, was placed on the head of female depictions of Aset for instant recognition. It occurs prominently in Senemet's calendar when Aset-Nibiru overthrew Mut-Tiamat, a hundred years after the start of the calendar. This throne also appears as a time marker on cylinder seal VA-243 (above).

After the pole reversal of 9577 BC, Mixtecs named the new sun '4 water'.

A ring of debris remaining from the destruction of Tiamat is called the Asteroid Belt.

Nibiru: remnant of a supernova

Of many hypotheses offered for Nibiru's origin, that by Allan and Delair (1997) stands out.

We suggest that Phaeton was spawned in an astronomically-near supernova explosion, and Phaeton was a portion of exploded astral matter. The Vela supernova is the closest, 45 light years from Earth. It exploded either 14,300 or 11,000 years ago, with the early date fitting Phaeton.

Referring to Phaeton as Typhon, the Roman writer Pliny tells us: it had a fiery appearance and was twisted like a coil, and it was very grim to behold: it was not really a star so much as what might be called a ball of fire."

In the Akkadian epic, after Marduk entered the solar system, the planets "heaped upon him their awesome flashes" as he became "clothed with the halo of ten gods," so bright that the ancients considered him second only to the Sun in heavenly brilliance, the 'son of the Sun' among Greeks. We suggest that Marduk had catastrophically ruptured the remote plane now represented by the Kuiper Belt objects, ..., and produced an Aluminum-26 cloud something which had to have partly involved stellar matter.

Marduk next encountered Ea (Neptune), whose gravitational pull was powerful enough to cause Marduk to grow a second head, an indication of Marduk's molten, plastic condition. As Marduk reaches Anu (Uranus), great pieces of him are torn off and form into four attendants which commence to circle around Marduk, "swirling as a whirlwind." Marduk's flight was contrary to that of the planets.

Nibiru: orbital geometry

Nibiru followed a retrograde orbit of 20 years

Zechariah Sitchin stated that Nibiru followed a retrograde orbit, ostensibly after looking at an image on cylinder seal VA-243 (Figure 4). This seems highly unlikely, but something in the Sumerian inscriptions led him to that conclusion. At any rate, no one disagrees.

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Most of Nibiru's moons would also have followed retrograde orbits, which leads to some corroborating evidence. Although Nibiru was doomed when it collided with Jupiter, some of its outer moons survived and now circle Jupiter in retrograde orbits with a period of two years.

Nibiru semi-major axis was 7.36 AU

From Kepler's Third Law of Planetary motion, Nibiru's semi-major axis 'a' measured $20^{2/3} = 7.36$ astronomical units (AU), where one AU is the average distance from Earth to Sun.

At a distance of 1 AU from the Sun, the orbital velocity of Nibiru depends only on the semi-major axis.

$$v_N = v_E(2 - 1/a)^{1/2} = 30 \text{ km/sec} * (13.72/7.36)^{1/2} = 30 \text{ km/sec} * 1.36 = 40.7 \text{ km/sec}$$

a = 7.36 AU, semi-major axis of Nibiru

$v_E = 30 \text{ km/sec}$, average velocity of Earth around Sun

At the point of crossing, Earth travelled 30 km per second while Nibiru travelled 41 km per second, but **retrograde** at nearly a 45-degree angle, so the closing speed was close to 60 km per second.

After intersecting Earth, Nibiru took one year to travel to Tiamat, and a second year to reach Jupiter.

Nibiru intercepted Earth at the equinox or 'crossing'

Babylonian *nibiru* means 'the crossing', which can be interpreted as Nibiru crossing the orbit of Earth. However, a more general interpretation is that *nibiru* means 'a crossing' of any planet or star that marks an equinox, the crossing or turning point from one season to the next.

In a 2015 report for the Cuneiform Digital Library Bulletin, Immanuel Freedman analyzed the extant cuneiform evidence and concluded that the hypothesis that the name *nēbiru* may be assigned to any visible astronomical object that marks an equinox is supported by cuneiform evidence. Wikipedia

In this context, Nibiru intercepted Earth at either the spring or fall equinox.

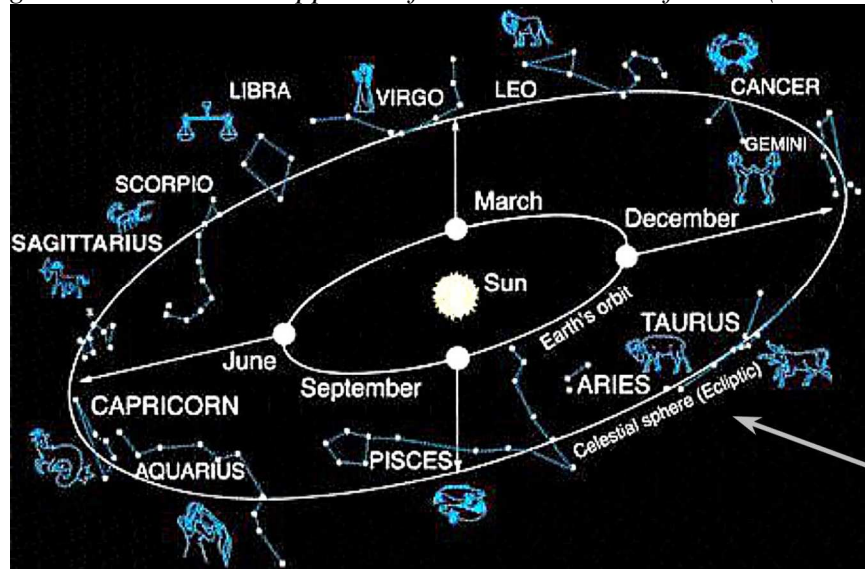
Nibiru semi-minor axis was 2.7 AU

In order for Nibiru to intercept Earth at an equinox, its semi-minor axis 'b' was 2.7 AU (Figure 2).

Nibiru came from the direction of Aries, first house of the Zodiac

To an observer on Earth, Nibiru's approach would come from the direction of **Aries** (Figure 2). No matter which way the pole may have pointed, Nibiru always approached from the direction of Aries. Why is this important? Because in every country, Aries is the first house of the Zodiac, symbolized by the ram, and its element is fire! Extensive literature on the Zodiac offers no explanation for why Aries should be the first house.

Figure 2: Nibiru would approach from the direction of Aries. (Earthsky)



Zecharia Sitchin's most famous image of Nibiru, Akkadian cylinder seal VA-243 in the Berlin Near Eastern Museum, shows Nibiru approaching the seated king from the direction of Aries, the ram (Figure 3).

Figure 3: Akkadian cylinder seal VA-243 contains an image of Nibiru approaching seated Earth from the direction of Aries the ram, bringing Moon to Earth. To read the inscription requires the image to be reversed, as shown. Each numbered area is a complex inscription (Harris 2018).



Earth's axis was reversed

In order for Nibiru to approach from the direction of Aires in a retrograde orbit at the equinox, the two planets intersected at the fall equinox. In order for the fall equinox to be spring in Britain, when the Atlantis flood smashed young animals in caves, the poles were reversed.

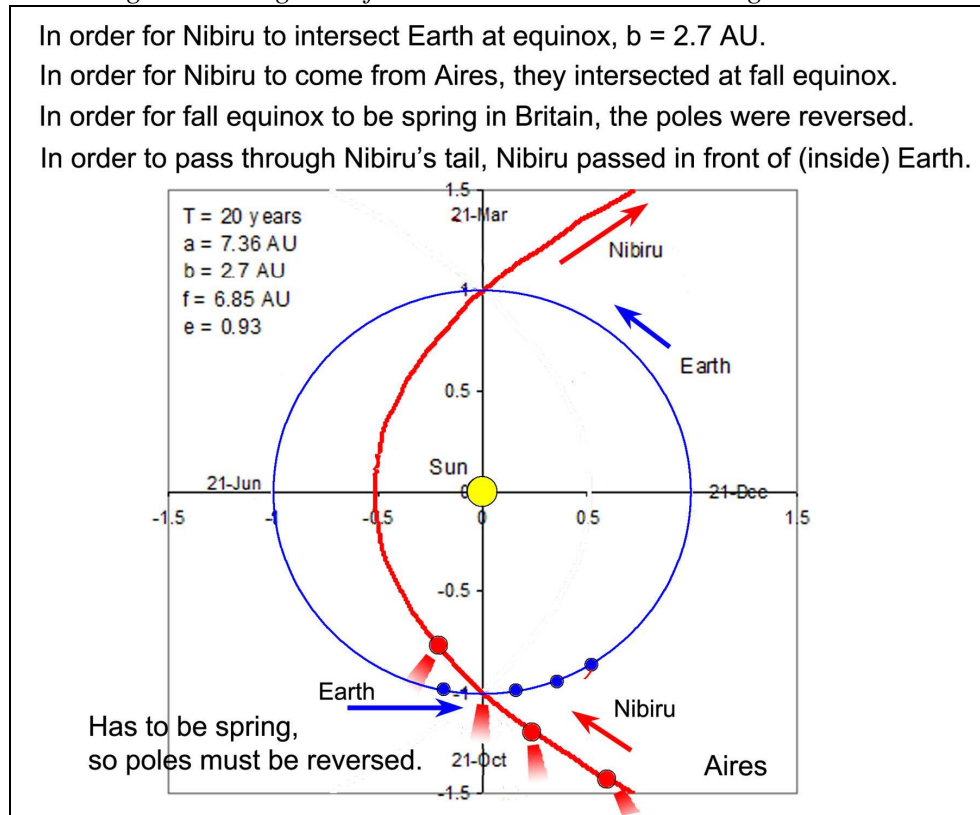
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With the poles reversed, the fall equinox marked the start of Egyptian, Sumerian, Babylonian, Hebrew and Frisian calendars, with Egyptian being the oldest. The oldest Indian calendar begins with Aires, which suggests it too started when the poles were reversed, perhaps in 3761 BC, the start of the Hebrew calendar.

Nibiru passed Earth on the Sun side

In order for Earth to pass through Nibiru's comet-like tail, Nibiru had to pass Earth on the Sun side, which is a stable configuration (Patten, 1996).

Figure 4: Diagram of Earth orbit and Nibiru retrograde orbit.

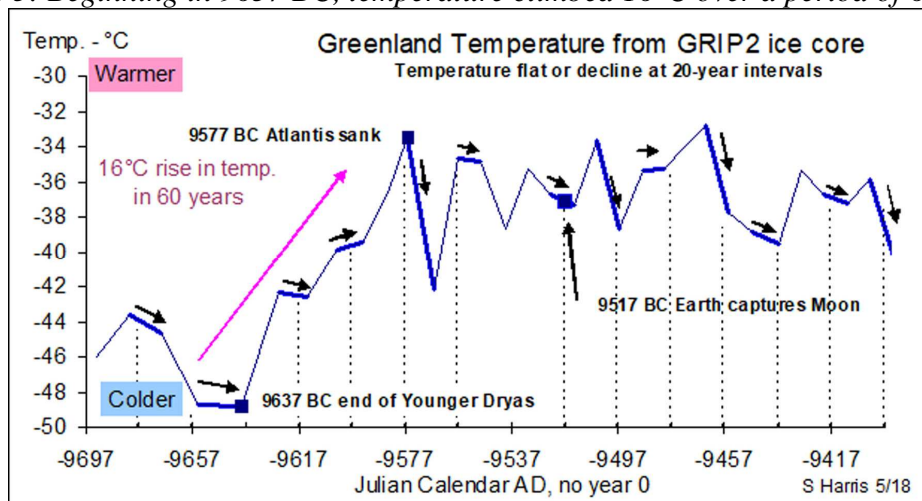


9677 BC: Nibiru settles into the plane of Earth-Tiamat-Jupiter

Regular downturns in temperature every twenty years began in 9677 BC (Figure 5). These resulted from Earth passing through the mantle of Nibiru when it passed on Earth's sun side.

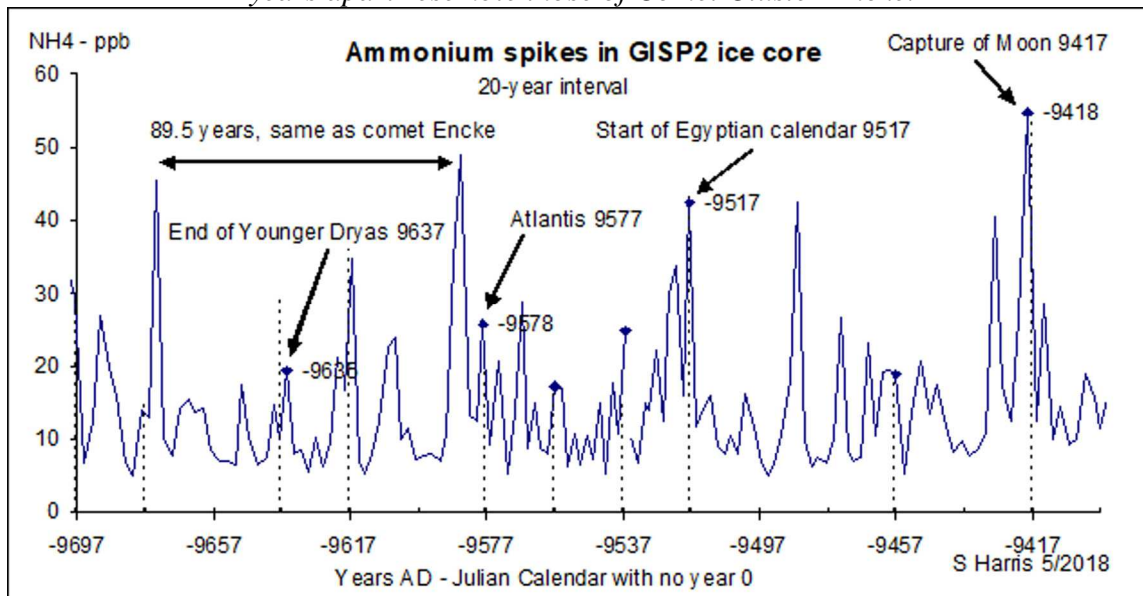
9637 BC: Near collision with Nibiru ends the Younger Dryas

Figure 5: Beginning in 9637 BC, temperature climbed 16°C over a period of 60 years.



In concert with periodic downturns in temperature, Earth experienced extra-terrestrial impacts that created spikes in ammonium (Figure 6). These non-trivial events could cause a pole shift if the object was 1/2 km or more in diameter and struck tangentially (Barbiero, 1999).

Figure 6: Spikes of ammonium at 20-year intervals also implicate planet Nibiru. During a fatal encounter in 9536 BC, Nibiru crippled Tiamat by flinging moons at her and captured a vast trove of debris plus her largest moon Kingu. Nineteen years later, Nibiru pummeled Earth with this debris, and lost Kingu in the process (see Spedicato below). As she died, Tiamat gifted Earth with Kingu, carried there by Nibiru to light up the sky at night. Two large spikes spaced 89.5 years apart resemble those of Comet Cluster Encke.



9637 BC: Near collision with Nibiru ends the Younger Dryas

9637 BC ended the Younger Dryas cold spell with a passage of Nibiru (Figures 8 and 10). For the next sixty years, average temperature climbed 16°C, interrupted by two brief plateaus when Nibiru again passed Earth.

One theory for this heating was a switch in the Gulf Stream. However, Atlantis and Frisland were already warm and un-glaciated, heated by the Gulf Stream.

Sinking of Atlantis by Nibiru in 9577 BC Part 3: Nibiru sinks Atlantis

Another possibility was a change in the location of the North Pole that moved Europe further south with dramatic effect on Greenland, but not so much on the rest of the world. Mexican history corroborates a pole shift, but not a small shift, a complete reversal, so that they had to name a new sun called '4-water'.

A third possibility is a brush with Nibiru that caused an orogeny.

9600 BC: 3000 m elevation of Tibetan Plateau

Allan and Delair (1995) assembled dates and elevation gains in Asia since the last ice age from a number of geologic surveys. A contour map of elevation gains centers around the Tibetan Plateau, which rose 3000 m (Figure 7). This they attribute to a close encounter with Marduk, an Akkadian name for Nibiru before it vanished.

Measured and estimated dates cluster around 9600 BC for elevation gain.

Land subsided to the northwest, southwest, south and east.

Such an orogeny produced massive frictional heating.

Rising heat across the entire region generated unprecedented, continuous monsoons, whose rivers cut deeply into the high mountains and flooded the plains.

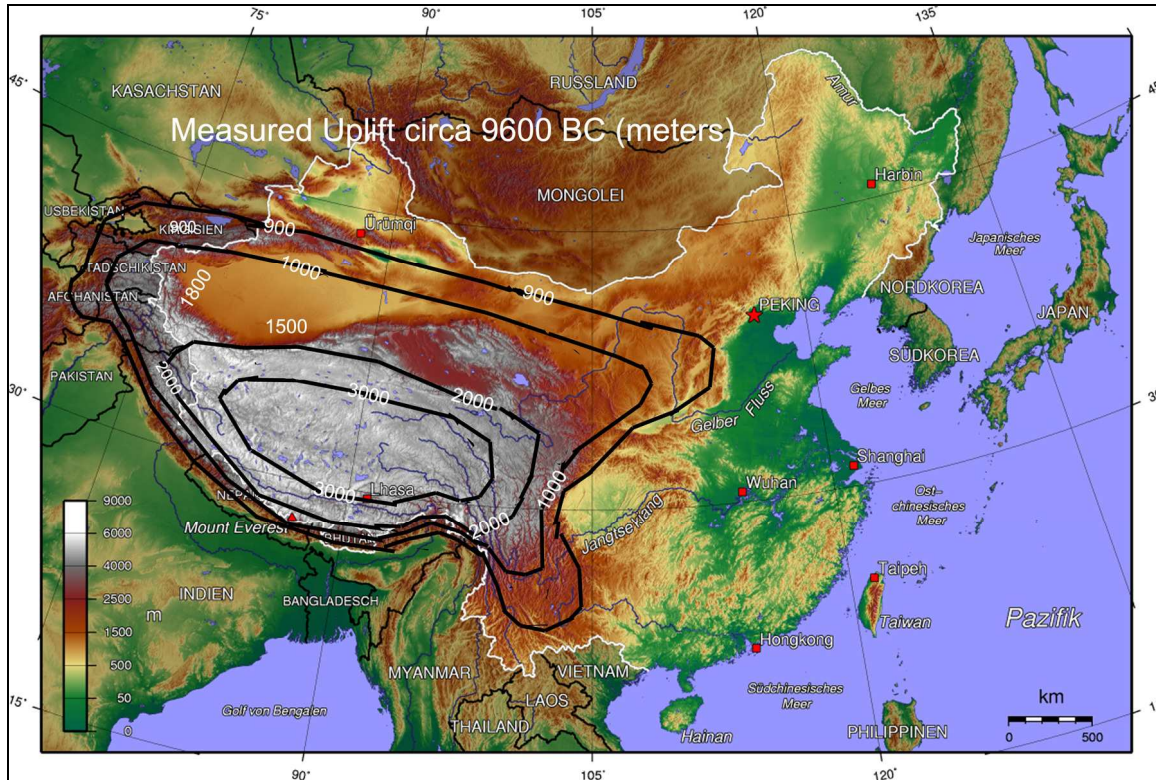
Nibiru intersected Earth at the Autumn equinox from the direction of Aries. For the geometry of the axis of uplift to be in the same plane as that of Nibiru, the poles had to be reversed.

Asymmetrical uplift from north to south can be partly explained. The Main Frontal Thrust of the Indian Plate south of the Himalayas became relatively friction-free and did not resist the uplift. The uplift exposed a strip of friable land 1800 km long by 50 km wide, dated 9600 BC. Beginning in 9600 BC, torrents of rain rapidly eroded the land, known as the Siwalik Hills. These hills contain very high levels of soluble arsenic, which has created toxic problems with the water supply downstream. (Guillot, 2007)

Great Han Hu Lake, 1000 km long by 450 km wide, drained in just over an hour into East Kazakhstan. An advanced civilization around the lake vanished in under a minute. The dry lake bed, called Taklimakan Desert, now supports farms along the north coast. A maze of underground tunnels carries water from the Himalayas across the lake bed to the farms.

9637 BC: Near collision with Nibiru ends the Younger Dryas

Figure 7: Map of change in elevation contours centered on the Tibetan Plateau from a near collision with Nibiru around 9600 BC. Elevations in white are from surveys. Most likely the date was 9617 BC, when Nibiru ended the Younger Dryas cold spell by forcing an abrupt increase in global temperature of 16°C in 60 years. (Allan and Delair, 1995) (Elevation map from Wikipedia).



Mythology of origin of Himalayas

The Mahabharata speaks of the formation of the Himalaya. In the very beginning of time and creation, the Hindu god Vishnu used to live by the shores of a great vast sea. A pair of seagulls also nested on the same shore. Every year the female seagull would lay her eggs by the shore of the sea. But the sea would sweep in and wash her eggs away. The female seagull laid her eggs farther ashore every year but the sea would continue to sweep in and wash them away every single time. The seagulls were heartbroken by their loss. In despair, they appealed to Vishnu, the great Preserver, to come to their aid.

Vishnu felt pity and compassion for their hapless situation. He opened his mouth and swallowed the sea in a huge gulp. Where the sea was, now lay the newly created Mother Earth. Vishnu was very exhausted by the feat of swallowing up such a vast sea. He lay down to rest and soon fell into a deep sleep. The demon Hiranyanksha was lurking nearby. When he saw Vishnu asleep, he seized the opportunity and brutally assaulted the defenseless Mother Earth. His brutality was of such great magnitude that her limbs were broken and levered up. These broken limbs, towering towards the sky, formed the mighty Himalayas. (Himalayan Voices)

9637 BC: temperature of Norwegian coastal water jumps

In 1992, Scott Lehman and Lloyd Keigwin of Woods Hole Oceanographic Institution drilled a deep-sea sediment core 50 km off the coast of Norway on the continental shelf (60.8° N, 3.7° E)

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(Figure 9). By luck, it had not been destroyed by turbidites, had a very high deposition rate, and was filled with organic debris that provided numerous radiocarbon dates. The high deposition rate allowed accurate sampling without worry about slight mixing of sediments.

They were particularly interested in the presence of *Neogloboquadrina pachyderma*, a sensitive barometer of ocean temperature. This core exhibited step-like switches between hot and cold at the beginning and end of the Younger Dryas, a measure of the ocean temperature next to Norway, but not of the Gulf Stream. Their presentation was hampered by not having a radiocarbon correction curve that extended that far back in time, but now one is available, and by adding 1020 years to their age calculation, an amazing picture of the Younger Dryas in the North Atlantic emerges (Figure 8). This is important because Atlantis sailed through the YD by its close proximity to the Gulf Stream. The Gulf Stream did not turn off, as Lehman postulated, because Atlantis, Frisland, coastal Iceland and coastal Norway bordering the Gulf Stream did not freeze. Perhaps a branch next to Norway turned off and on.

Figure 8: Temperature of the ocean off the coast of Norway from 9 to 15 ka, measured by the presence or absence of *Neogloboquadrina pachyderma*. (Based on Lehman, 1992).

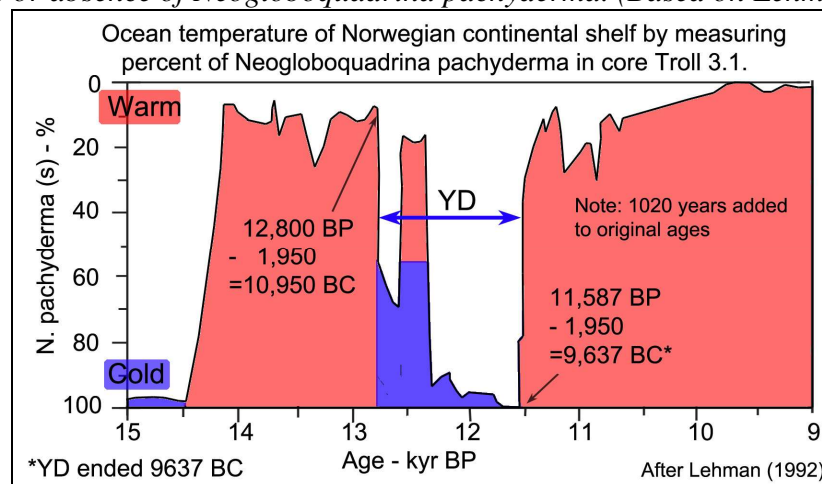


Figure 9: Location of the drilling site off Norway for Troll 3.1 core. A least four slides are visible, which the drill site avoided. Atlantis and Frisland shown in outline, attached to the continental shelf.



9577 BC: Nibiru sinks Atlantis at the spring equinox in the southern hemisphere

9577 BC: Nibiru sinks Atlantis at the spring equinox in the southern hemisphere

Three independent sources point to 9577 BC, Julian calendar with no year 0, as the date of the sinking of Atlantis. The radiocarbon date for 9577 BC is $10,030 \pm 17$ RC BP.

It was at the equinox; Sumerian *nibiru* means ‘the crossing’ or ‘the turning point’.

It was spring in the UK based upon young animals trapped in caves.

The poles were reversed, so the UK was in the southern hemisphere.

The date thus becomes the spring equinox in the southern hemisphere, which agrees with Nibiru approaching from Aires.

9574 BC: Egyptian priest from Sais

Solon heard about Atlantis when he first arrived in Egypt in 574 BC. A priest of Sais said Atlantis sank 9000 years earlier (Plato’s Critias). $574 + 9000 = 9574$ BC.

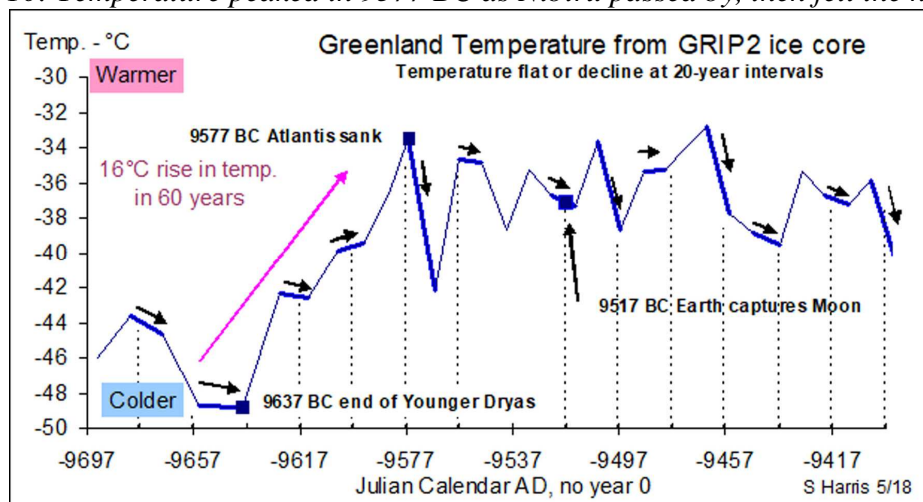
9577 BC: average of 189 radiocarbon dates

Allan and Delair (1997) averaged 189 radiocarbon dates related to the sinking of Atlantis to get 9577 BC. Based upon the large number of young animals among the animals crushed together in caves by the force of the tsunami, they judged that Atlantis sank in the spring when animals had recently given birth.

9577 BC: downturn in temperature at Greenland

Greenland GRIP2 ice core shows a dramatic peak in temperature in 9577 BC as Nibiru baked Earth with its heat, followed immediately by a drastic downturn in temperature as debris acquired from Nibiru blocked sunlight (Figure 10).

Figure 10: Temperature peaked in 9577 BC as Nibiru passed by, then fell the next year.



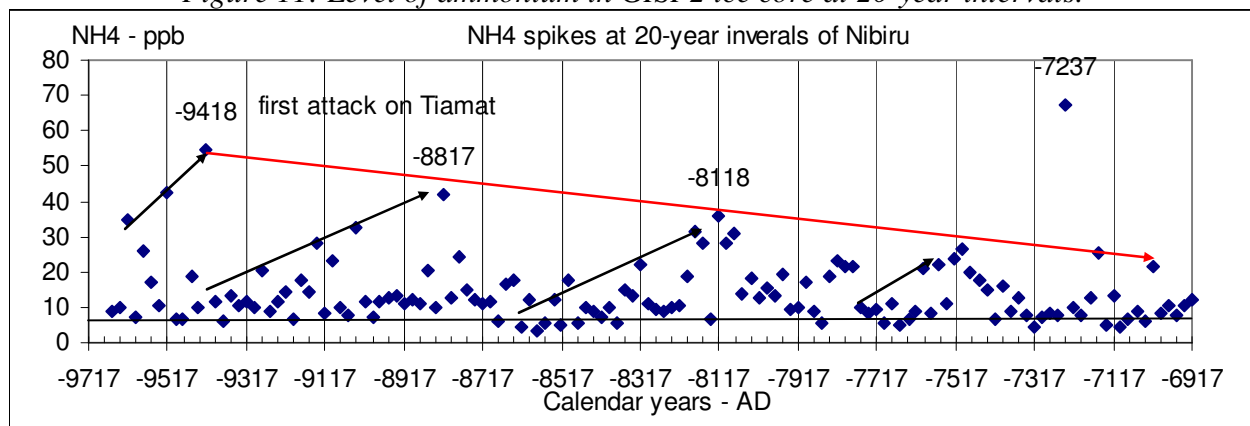
9577 BC: spike in ammonium at Greenland

During the life of Nibiru, Greenland GISP2 ice core shows occasional spikes of ammonium (NH_4^+) every twenty years, characteristic of an extra-terrestrial impact in the northern hemisphere (Figure 13). Several increasing sequences suggest the orbit slowly changed. An overall decline suggests that Earth gradually cleaned out all but the largest satellites, which if

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they had ever hit, would have doomed the planet. The background level of ammonium is 6 ppb; most Nibiru years are two or three times higher. Sample size varied from 0.6 to 1.4 years, averaging 1.1 year.

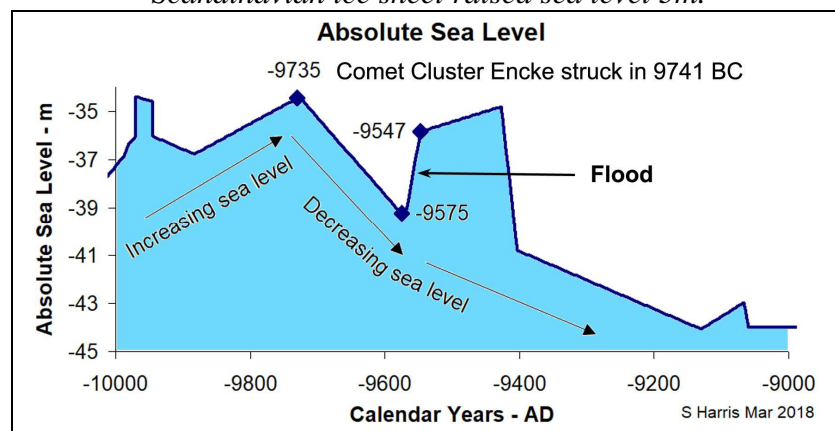
Figure 11: Level of ammonium in GISP2 ice core at 20-year intervals.



9575 BC: 3 m jump in sea level

Donoghue and Balsillie (2004) compiled 16 series of radiocarbon dates of absolute sea level for Florida and found a three-meter jump in sea level around 9575 BC (Figure 13). Their data requires an ablation the size of Hungary of the Scandinavian Ice Sheet.

Figure 12: Absolute sea level at 9600 BC was 39m lower. Around 9575 BC, a strike on the Scandinavian ice sheet raised sea level 3m.



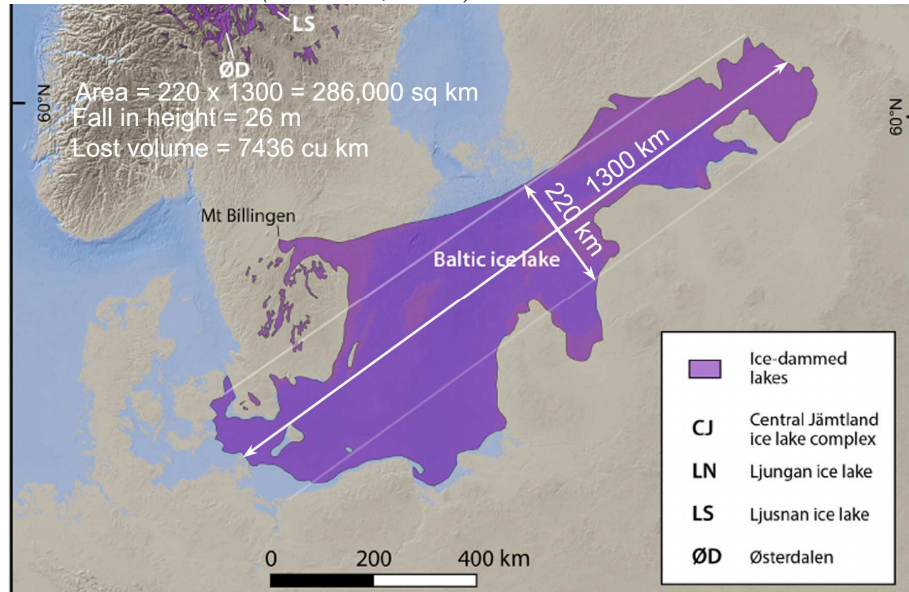
9577 BC: Ablation of Scandinavian ice sheet

In Egypt, shepherds in the mountains felt a strong earthquake before the flood. Between the Baltic Sea and the White Sea, a scattered

impact appears to have created many shallow depressions that became lakes.

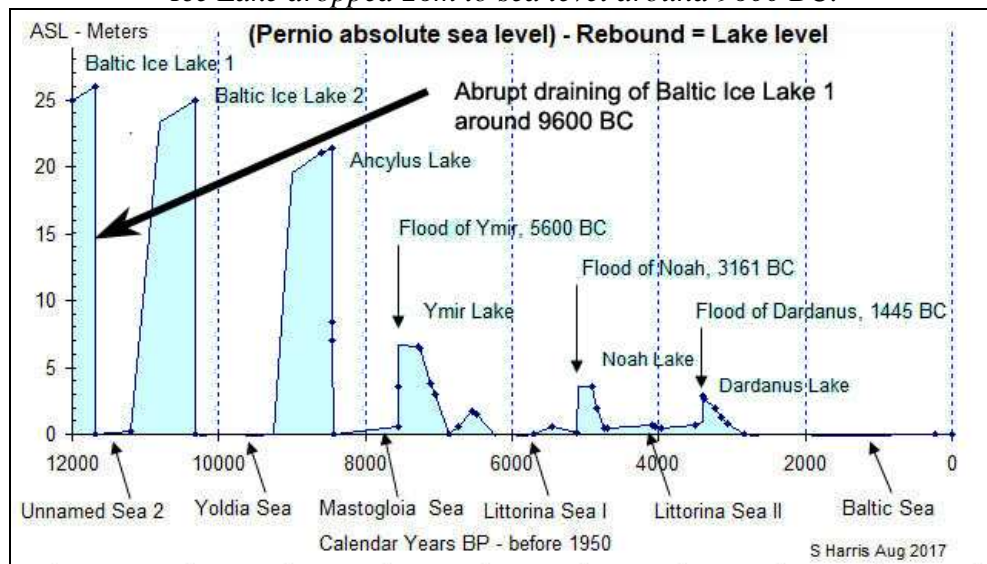
Prior to 9600 BC, both eastern and western outlets of the Baltic Sea were blocked by ice, which created Baltic Ice Lake I with an area of 286,000 square kilometers (Figure 13).

Figure 13: Baltic Ice Lake (Stroeven, 2016). It lost 7436 cubic kilometers in 9600 BC.



Around 9600 BC, lake level plunged 25 m to sea level when an outlet was unblocked (Figure 14). Although the lake lost 7436 cu km, it barely nudged sea level, a rise of 2 cm. The next catastrophic outflow occurred in 8365 BC, when a passage through Denmark opened up.

Figure 14: Relative level of the Baltic Sea at Perniö in southwest Finland (Harris 2017). Baltic Ice Lake dropped 26m to sea level around 9600 BC.

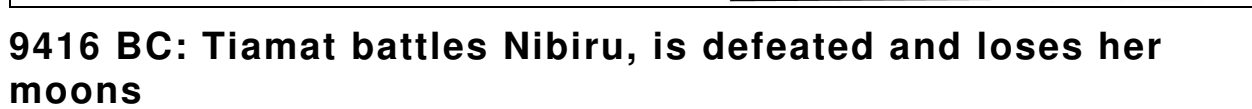


Successive images of the Scandinavian ice sheet before and after 9600 BC show a large piece of ice over Denmark disappeared, which allowed Baltic Ice Lake to drain over a wide area of Denmark without cutting a significant channel.

9497 BC: Egyptian calendar begins

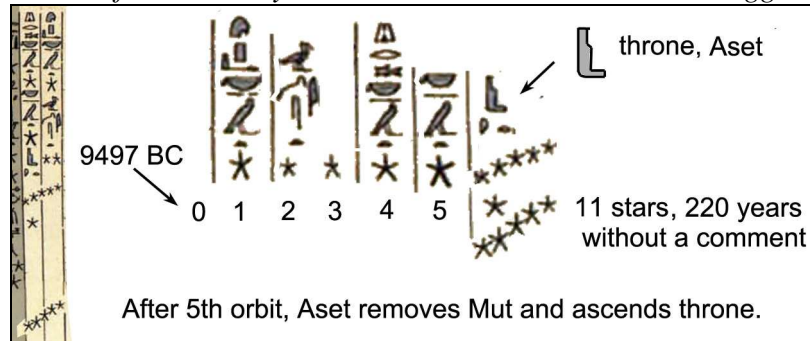
Emilio Spedicato discovered that the central astronomical table drawn on the ceiling of Senenmut's tomb in Egypt is actually a calendar of twenty-year increments that reads right to left, top to bottom.

The star inside Jupiter represents Venus inside Jupiter. “Metis, a wife of Jupiter, being pregnant of Athena, entered the body of Jupiter, who expelled Athena from his head.” The date would be two years after the last encounter with Earth, or 6935 BC.



9416 BC: Tiamat battles Nibiru, is defeated and loses her moons

Figure 16: First two columns of the calendar of Senemet's Tomb, which reads right to left, top to bottom. The symbol of Aset is a throne, shown after the fifth star, or 100 years after the start of the calendar. Then follows 220 years with no comment as Earth struggles to recover.



This occurred on the second flyby of Tiamat in 9396 BC. Backing up 20 years gives 9416 BC for the first battle between Tiamat and Nibiru. Just as Nibiru nearly hit Tiamat, it first nearly hit Earth, as shown by a very high spike of ammonium in 9417 BC (Figure 11).

In Sitchin's translation of the Sumerian tablets, Nibiru battered Tiamat to death and acquired her moons, including Kingu. In this passage, 'wind' means a large satellite, a moon.

The gods who decree the fates with each other consulted;
To make Nibiru their Avenger they all agreed, to him an exalted fate decreed.
From this day on, unchallengeable shall be your commandments! to him they said.
No one among us gods shall transgress your bounds!
Go, Nibiru, be our Avenger!

They fashioned for him a princely circuit toward Tiamat to proceed;
They gave Nibiru blessings, they gave Nibiru awesome weapons.
Anshar three more winds of Nibiru brought forth: the Evil Wind, the Whirlwind, the Matchless Wind.
Kishar with a blazing flame filled his body, a net to enfold Tiamat therewith.
Thus ready for battle, Nibiru toward Tiamat directly set his course.

Now this is the account of the Celestial Battle,
And how the Earth lead come to be, and of Nibiru's destiny.

The lord went forth, his fated course he followed,
Toward the raging Tiamat he set his face, a spell with his lips he uttered.
As a cloak for protection he the Pulser and the Emitter put on;
With a fearsome radiance his head was crowned.
On his right he posted the Smiter, on his left the Repeller he placed.
The seven winds, his host of helpers, like a storm he sent forth;
Toward the raging Tiamat he was rushing, clamoring for battle.
The gods thronged about him, then from his path they departed,
To scan Tiamat and her helpers alone he was advancing,
The scheme of Kingu, her host's commander, to conceive.

When he saw valiant Kingu, blurred became his vision;
As he gazed upon the monsters his direction was distracted,

Sinking of Atlantis by Nibiru in 9577 BC Part 3: Nibiru sinks Atlantis

His course became upset, his doings were confused.
Tiamat's band tightly her encircled, with terror they trembled.
Tiamat to her roots gave a shudder, a mighty roar she emitted;
On Nibiru she cast a spell, engulfed him with her charms.
The issue between them was joined, the battle was unavowed!

Face to face they came, Tiamat and Nibiru; against each other they were advancing.
They for battle approached, they pressed on for single combat.
The Lord spread his net, to encompass her he cast it;
With fury Tiamat cried out, like one possessed she lost her senses.

The Evil Wind, which had been behind him, Nibiru drove forward, in her face he let it loose;
She opened her mouth the Evil Wind to swallow, but could not close her lips.
The Evil Wind charged her belly, into her innards it made its way.
Her innards were howling, her body was distended, her mouth was open wide.
Through the opening Nibiru shot a brilliant arrow a lightning most divine.
It pierced her innards, her belly it tore apart;
It tore into her womb, it split apart her heart.
Having thus subdued her, her life-breath he extinguished.

The lifeless body Nibiru surveyed, like a slaughtered carcass Tiamat now was.
Beside their lifeless mistress, her eleven helpers trembled with terror;
In Nibiru's net they were captured, unable they were to flee.
Kingu, who by Tiamat was made the host's chief, was among them.
The Lord put him in fetters, to his lifeless mistress he bound him.
He wrested from Kingu the Tablets of Destinies, unrightly to him given,
Stamped it with his own seal, fastened the Destine to his own chest.
The others of Tiamat's band as captives he bound, in his circuit he them ensnared.
He trampled them underfoot, cut them up to pieces.
He bound them all to his circuit; to turn around he made them, backward to course.

From the Place of the Battle Nibiru then departed,
To the gods who had him appointed the victory to announce. (Sitchin, 1990)
Nibiru continued his course around Jupiter and back to Earth.
He made a circuit about Apsu, to Kishar and Anshar he journeyed.
Gaga came out to greet him, as a herald to the others he then journeyed.
Beyond An and Antu, Nibiru to the Abode in the Deep proceeded.
The fate of lifeless Tiamat and of Kingu he then considered,

9397 BC: Earth captures Moon from Tiamat

Tiamat, 'Mother', had a 4-year period

Sumerian Ti-ammat meaning 'life mother' was called Mut 'mother' by Egyptians and Äiti 'mother' by early Sumerians. Three times larger than Earth, Tiamat orbited between Earth and Jupiter, a nearly circular, prograde orbit in the same plane as that of Jupiter and Earth. Tiamat hosted seven moons, the largest of which Kingu survived her destruction to become Earth's Moon. Her four-year period was resonant with Jupiter's twelve-year period.

9395 BC: Nibiru destroys Tiamat

The only orbital period for Tiamat that satisfies both Jupiter (12-year period) and Nibiru (20-year period) and fits within the Asteroid Belt is 4 years.

By Keppler's Second Law, the cube of the radius is proportional to the square of the period. If units are in AU, then with a 4-year period, Tiamat's distance from the Sun was 2.52 AU.

$$r = (4)^{2/3} = 2.52 \text{ AU}$$

Nibiru loses Moon to Earth

The loss of Kingu to Earth was acknowledged later.

Let Kingu be a creature of the night, to shine at night. I shall appoint him Earth's companion, the Moon forever to be!

Nibiru passed Earth on the sun side, while Kingu traveled in an eccentric orbit on the night side, which allowed Earth to capture Kingu. Emilio Spedicato described the event.

Capture took place when, on the closest approach of P, one of its satellites was located so that Earth was between that satellite and P. Thus, Earth was closer to the satellite, and we assume that it was gravitationally dominating. Then P moved away, having lost that satellite. The initial orbit of what had become our Moon was certainly not circular, but we can guess that circularization was fast, taking perhaps less than a century.

The initial orbit of Moon was probably also closer, moving to the present distance only after the Biblical Flood. Indeed, in Velikovsky unpublished work <i>In the beginning</i> , it is recalled that according to Sumerian astronomical tablets, the Moon, called Nannar by Sumerians, loomed in the sky greater than Sun, whose apparent size was only two thirds of Moon's. It follows that Moon's distance to Earth was 2/3 of today's. Presently Moon has a period of about 27.3 days, or 29.5 from the point of view of a terrestrial observer sitting on our moving planet. Applying Keppler's third law, we get a lunar period of slightly less than 21 days, against the present 27.3. This would mean 16 months, and here we recall the special value of 16 in Hindu traditions, 16 being the age considered the best for youth and beauty, and the age at which the Hindu god statues are represented. (Spedicato, 2012)

9395 BC: Nibiru destroys Tiamat

During the second pass, Nibiru split Tiamat in half with one of its four large moons, then exploded both halves into small fragments with gravity. A small fraction of fragments, no more than 2%, remain as a debris field called the Asteroid Belt between 2.06 and 3.28 AU. The remainder blasted the face of every planet and moon near the explosion. On Earth, this blasted, highly heated ground is called 'hardpan', a bane of well-drillers, and occurs at all elevations.

The Sumerian tablet saga spares half of Tiamat to become Earth, with Kingu as its moon. Its logic fails, as no witness could have survived.

To Tiamat, whom he had subdued, the Lord Nibiru then returned. He made his way to her, paused to view her lifeless body; To artfully divide the monster in his heart he was planning.

Then, as a mussel, into two parts he split her, her chest from her lower parts he separated. Her inner channels he cut apart, her golden veins he beheld with wonder. Trodding upon her hinder part, the Lord her upper part completely severed.

Sinking of Atlantis by Nibiru in 9577 BC Part 3: Nibiru sinks Atlantis

The North Wind, his helper, from his side he summoned,
To thrust away the severed head the Wind he commanded, in the void to place it.

Nibiru Wind upon Tiamat then hovered, sweeping upon her gushing waters.
Nibiru shot a lightning, to North Wind he gave a signal;
In a brilliance was Tiamat's upper part to a region unknown carried.
With her the bound Kingu was also exiled, of the severed part a companion to be.

The hinder part's fate Nibiru then considered:
As an everlasting trophy of the battle he wished it to be,
A constant reminder in the heavens, the Place of the Battle to enshrine.
With his mace the hinder part he smashed to bits and pieces,
Then strung them together as a band to form a Hammered Bracelet.

Cylinder Seal VA-243 documents a similar sequence: Tiamat loses Moon to Nibiru, Nibiru carries Moon to Earth, Earth acquires Moon, Nibiru destroys Tiamat, Moon protects Earth against the next passage of Nibiru to retrieve Moon, debris from Tiamat incinerates much of Earth (Harris, 2018).

Question: did the throne for Aset come after the first pass or the second pass? After the first pass Tiamat died, after the second, destroyed. Cylinder seal VA-243 reports gaining Moon on the second pass and continues to report the destruction of Mother by Storm (Nibiru). Other people arrive, then die on the first day of the bombardment. Survivors anticipate the third pass and plead to Moon for protection. Storm misses Earth but still wreaks havoc. The reporter ends with,

Empty of men, of trees, and food as well. I am left of ten thousand. Hailstones smashed the ten, and most of the fodder for sheep.

After the annihilation of the population, the Egyptian calendar marks eleven passes of Aset without comment.

6937 BC: Last flyby before Nibiru strikes Jupiter

If Nibiru hit Jupiter in 6935 BC, then the last flyby of Earth was 6937 BC, in agreement with GRIP2 temperature record (Figure 17).

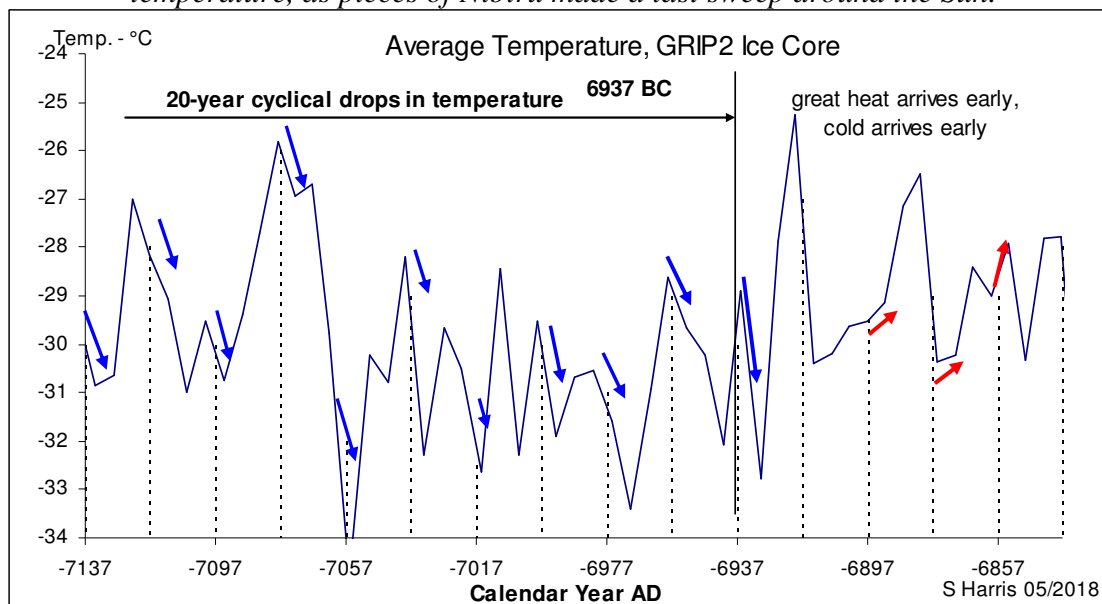
6935 BC: Nibiru hits Jupiter

Twenty-year cooling events in GRIP2 ice core continued until 6937 BC. Two years later, 6935 BC, Nibiru plunged into Jupiter and ejected Jupiter's core as Venus (Spedicato 2016).

The next event occurred about 16 years later. First Earth was greatly heated, then greatly cooled. Presumably, wreckage from Nibiru followed a shorter period. Large pieces of debris impacted and heated Earth, followed by smaller particulates that shielded Earth from the Sun.

6935 BC: Venus is born from Jupiter, Toltec codex date

Figure 17: Temperature downturns every twenty years ended in 6937 BC. Nibiru then hit Jupiter. The following cycle a great heat arrived early, followed by a dramatic fall in temperature, as pieces of Nibiru made a last sweep around the Sun.



6935 BC: Venus is born from Jupiter, Toltec codex date

Toltec record keepers counted 1,366,560 days between the birth of Venus (the end of Nibiru) and the start of the Mayan calendar.

A little-known statement in Ixtlilxochitl, a historian of Spanish father and Aztec mother, given in Gilbert and Cotterell (2006), reports from a lost Toltec codex that Venus was born 1,366,560 days from the beginning of the Mayan chronology, considered to be the year 3114 BC. It is quite surprising that this precise Toltec statement has apparently escaped the attention of scholars, including the people who accepted a real birth of Venus from Jupiter on the arguments given by Velikovsky. Let us here note that the period between the end of the Ice Age and 6900 BC was a dark period for mankind. People had to be very scared of celestial events and for this reason built subterranean cities, such as in Anatolia (Spedicato, 2012)

Two years after passing Earth, possible impact dates are 6975, 6955, 6935 and 6915 BC. Subtracting 3114 and dividing the result into 1,366,560 days gives an average number of days in a year (Table 2). The best choice is 357.6 days, which gives 6935 BC for the impact (Figure 18).

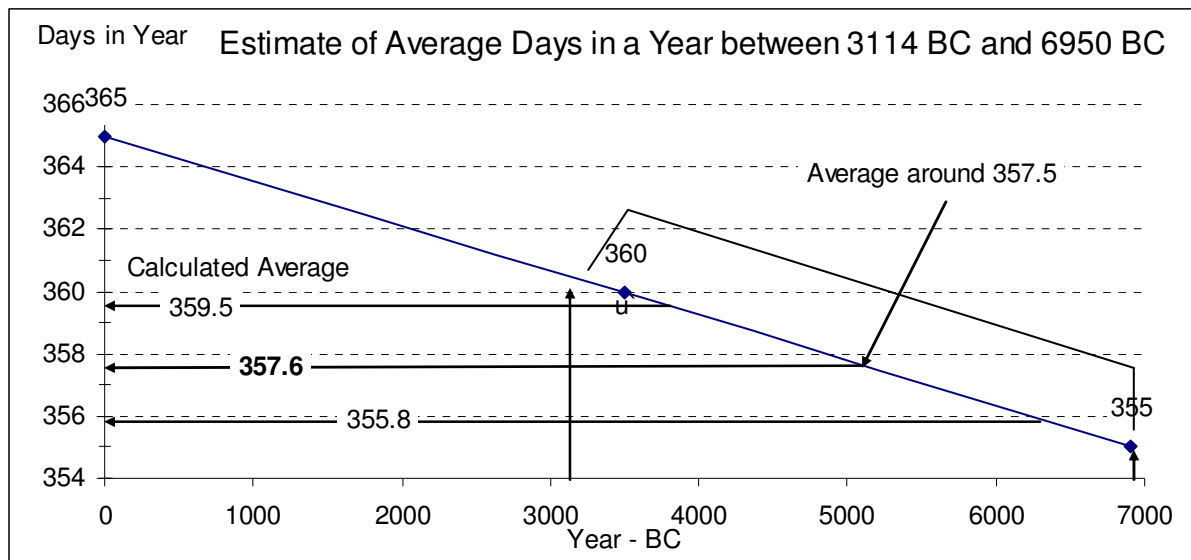
Table 2: Calculation of possible average number of days in a year between the birth of Venus and the start of the Mayan calendar.

Possible impact with Jupiter	6975	6955	6935	6915
Start of Mayan calendar	-3114	-3114	-3114	-3114
Possible years between	3861	3841	3821	3801
Number of elapsed days	1,366,560	1,366,560	1,366,560	1,366,560
Possible ave. days in a year	353.9	355.8	357.6	359.5

Figure 18: Plot of possible average number of days in a year between the birth of Venus and the start of the Mayan calendar. Between 3500 BC and 0 BC, the average number of days increased

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from 360 to 365 days. Extrapolating backwards gives 355 days in 7000 BC. The average between 3114 and 6950 BC is around 357.5 years, which closely matches the calculated value of 357.6 years for the birth of Venus in 6935 BC.



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Sinking of Atlantis by Marduk in 9577 BC, Part 4: Destruction from the flood

Stuart L Harris; December 2018

Carbondale, CO; Shirley, LI; Ellenville, NY; Columbia, SC; Reading, PA; Knoxville, TN;
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Overview

This paper, the last of four papers on Atlantis – Discovery, Sinking, Marduk and Destruction – examines the extent of the tsunami of 9,577 BC. It compares calculated flood levels with actual flood levels in Europe, Morocco, and the Americas. It explains significant extinctions in Britain and France. The analysis encountered two previous tsunamis, one in 10,392 BC from the Arctic Ocean, the second off the coast of South Carolina above the Blake Escarpment around 14,000 BC. It found the trigger for the Atlantis tsunami was a rogue planet called Marduk-Nibiru-Storm. In addition to sinking Atlantis, satellites of Marduk ablated all the ice off the north half of Antarctica.

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Major catastrophes caused by Marduk

Planet Marduk, about ten times the mass of Earth, may have been a piece of star ejected by a supernova that continued to glow from within. Oral and written history describe Marduk / Nibiru as a second sun, surrounded by four moons, numerous satellites and a cloud of fine debris. After entering the Solar System, it was deflected by Neptune and Jupiter into a narrow, retrograde, twenty-year orbit in the same plane as that of the three inner planets: Earth, Tiamat and Jupiter. On every third orbit, Marduk aligned with Jupiter (12-year orbit) and Tiamat (4-year orbit), which caused Marduk to nearly hit Earth with terrible consequences.

In 9637 BC, a near miss by Marduk over Tibet ended the Younger Dryas by elevating the Tibetan Plateau 3 km. This uplift emptied a vast lake in the Tarim Basin, which flooded China and left a layer of brown clay. Friction from the elevation boiled nearby oceans and caused global temperature to rise; in Greenland, the average temperature rose 16°C in 60 years. Massive storms from the boiling ocean struck the Himalayas, which created a multitude of rivers that cut deep ravines into newly exposed land to the south.

In 9577 BC, a strike by a satellite of Marduk near Ireland created an earthquake that caused the island of Atlantis to slip into Rockall Basin, 3 km deep. This turbidite created a 1.6 km high tsunami above an area the size of Britain, with a volume of 400,000 km³. Going east, the

Overview

tsunami washed over Ireland, Britain, Denmark and the Baltic Sea, flooded the Caspian Sea (Late Khvalynian Transgression), Black Sea (Late Drevnechernomorian Transgression) and eastern Mediterranean Sea, drowned an army near Athens and left a flood mark on the Great Pyramid. Across the Baltic basin, it dropped a load of sand, while in France and Spain, it dropped a load of silt at its maximum extent, which support the highest plowed fields. In North America, it flooded the east coast up to 400m, the Mississippi Valley up to 200 m, and washed over the Yucatan Peninsula. In Central America it crossed Panama to the Pacific. In South America, it flooded deep into the interior of Brazil.

In 9417 BC, a near collision with Marduk allowed Earth to capture Moon, which Marduk had captured from Tiamat nineteen years before. A year later, Marduk passed so close to Tiamat that the luckless planet exploded. Two years later, pieces of Tiamat bombarded Earth and boiled the oceans, while at the same time debris cut off light and heat from the Sun. The result was heavy snowfall, an increase in global ice sheets and a 6 m drop in sea level.

Accounts of destruction by Marduk

9637 BC

A sun-like planet streamed fire on Earth, created earthquakes, spawned great storms, uplifted the heavens (the Tibetan Plateau), flooded China by emptying a lake, boiled nearby seas due to tidal friction, uplifted nearby seas, killed some Sumerian gods. No mention of a pole shift.

Inserted into the Gilgamesh epic is a “great hail from heaven” and a tremendous whirlwind that “swept up to heaven” accompanying a flood that “swiftly mounted up ... to the mountains.” This would describe bodies of water in proximity to the Tibetan Plateau being pulled upward as Marduk passed overhead. No mention of a pole shift.

9577 BC

Aztecs tell of a vanished land east of the American coast. “In a single day, all was lost, even the mountains sank into the water subsequently there came a great deluge in which many of the sons and daughters of the gods perished. No mention of a stream of fire or pole shift.

An Egyptian account relates that Egyptians felt an earthquake, Atlantis sank in the north Atlantic and flood waters from the sinking sloshed up and down the Mediterranean Sea for a day and a half. No mention of a stream of fire or a pole shift.

9417 BC

Sumerian cylinder seal VA-243 describes a near collision with Marduk that resulted in the transfer of Moon from Tiamat to Earth by Marduk, who had captured Moon the last time he passed Tiamat. The scribe calls Earth ‘Earth’, Tiamat ‘Mother’, Marduk ‘Storm’ and Moon ‘Hand of Mother’. A year later Storm attacks Mother and obliterates her by throwing one of his moons into her belly. After some time, pieces of Mother bombard Earth with devastating results. Those caught out in the open vanish. Every half day the bombardment resumes, allowing a half day to prepare for the next. So much debris flows toward the Sun that both light and heat are blocked. Survivors call on Hand of Mother to save them from the next attack by Storm. After surviving the next encounter, the scribe laments that he is the last of ten thousand (Harris, 2018).

Other

Accounts of destruction by Marduk

From Brazil, “The lightnings flashed and the thunders roared terribly and all were afraid. Then the heaven burst and the fragments fell down and killed everything and everybody. Heaven and Earth changed places. Nothing that had life was left upon the earth.” This has a pole shift.

Ovid tells of a celestial body called Phaeton whose approach burns earth. Great cities perish. The poles shift. But Phaeton and his chariot disintegrate, unlike Marduk, and there is a pole shift.

The scribe of the Madrid Codex relates “that ten countries with 64 million inhabitants convulsed and sank 8060 years earlier.” It is a copy of a classic Mayan codex of unknown date. If it refers to the seven Tollmann strikes of either 7521 or 7499 BC, then the scribal date would be 539 or 561 AD.

9,577 BC: Atlantic Ocean Tsunami

Summary

In 9577 BC, a satellite of planet Marduk struck somewhere near Ireland and created an earthquake strong enough to liquify a layer of quartz beneath the island of Atlantis west of Ireland. The top half of Atlantis slid west into Rockall Basin for 135 km, then regained friction and broke the lower half free from the continental shelf. Both halves sped across the basin for 225 km until the front edge dug into the basement and brought the split island to a halt. The sea had been raised an average of 1.6 km across Rockall Plateau, the size of Britain.

A quarter of the tsunami raced east over Ireland and Britain, thereby extinguishing the megafauna. It raced across Germany and Poland, tore off pieces of the Scandinavian Ice Sheet, crossed the hills of Belarus and flowed around the Ukraine. Now it had a straight path south across flat terrain to the Black Sea, where it arrived at the Bosphorus, a frothy wave 188 m high, moving over 300 kph. Part of the wave filled the basin, and part went over the hills of the Bosphorus, shot into the Aegean Sea, drowned coastal Athens, crossed the Mediterranean Sea and flooded the Egyptian Delta and coastal Levant. The Great Pyramid of Giza retained a high-water mark 133 meters above sea level from runup of this flood. Shellfish found in deep sediment at the base of the Great Pyramid date to 9600 ± 300 BC.

In central Russia, the Ural Mountains blocked the flood, where it ponded and dropped a bed of silt 500 m above sea level. Further south, a flood with salinity of one third of sea water raised the Caspian Sea to 0 m asl, called the **Late Khvalynian Transgression**, dated to 10.0 ka BP (9580 ± 17 BC).

A simultaneous widespread flood of one-third sea water in the Black Sea is called the **Late Drevnechernomorian Transgression**. A radiocarbon date of 10.0 ka BP translates to 9580 ± 17 BC. (Mertens et al, 2012; Konikov et al., 2007)

On the Iberian Peninsula, flood level reached 660 m, all the way to Madrid, where the highest plowed fields occur. In France and Spain, the Azilians were extinguished.

In eastern North America, the flood reached 1200 feet above sea level, the highest plowed fields, and sloshed into the Great Lakes. It continued down the coast, around the Appalachian Mountains, and up the Mississippi River Valley as far as Saint Louis. It drowned Cuba, the Yucatan and Belize, breached the Isthmus of Panama, and flooded half the interior of Brazil.

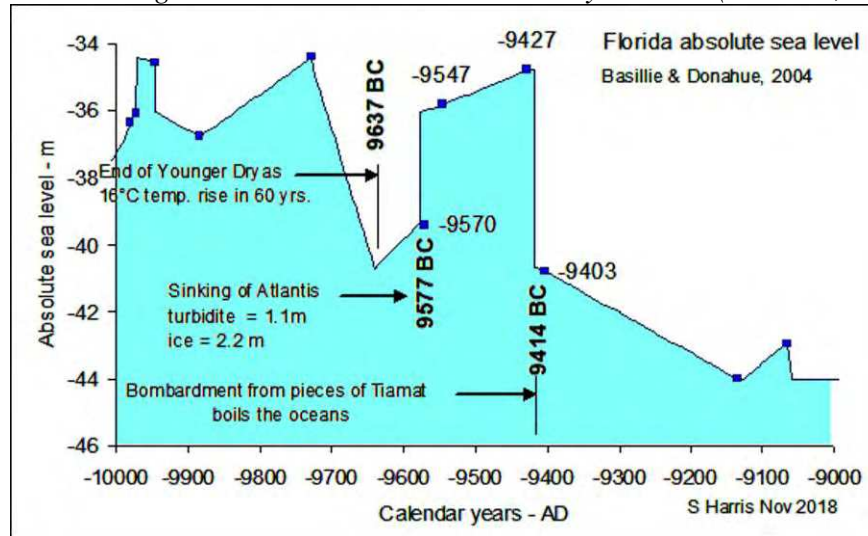
On the Pacific side of the Arctic Ocean, it breached the Bering Land Bridge; its high velocity prevented Pacific waters from entering the Arctic Ocean.

Volume of Atlantis Flood: 400,000 km³

In 9577 BC, the volume of the tsunami caused by the sinking of Atlantis was 400,000 km³; dividing this volume by the total area of the oceans of 360,000,000 km² raised absolute sea level 1.1 m. However, as shown in Figure 1, absolute sea level rose three times that amount, 3.3 m, leaving 800,000 km³ to be explained.

Volume of lost ice in Antarctica: 800,000 km³

Figure 1: Changes in absolute sea level caused by Marduk (Balsillie, 2004).

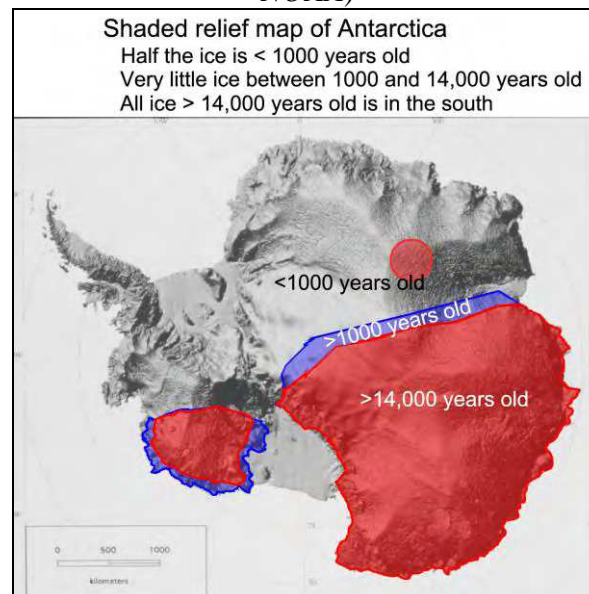


Volume of lost ice in Antarctica: 800,000 km³

The most obvious place to look for that much ice is Antarctica. A map of bore-hole data overlain on a shaded relief map shows an amazing phenomenon: the northern half of the continent has no ice older than a thousand years! (Figure 2). The exception is a drill site called Dome F on the southern slope of the highest peak. Moreover, the remaining ice in the south is nearly all over 14,000 years old. The northern half of Antarctica lost all of its ice over 14,000 years old, plus any ice that accumulated between then and a thousand years ago.

This lack of ice more than explains three maps based on much older maps that illustrate the north coast free of ice: the Piri Reis Map, the Oronteus Finneis Map, and the Buache Map. These maps depict the coastline and rivers, and employ advanced cartographic projection techniques that were unknown at the time.

Figure 2: Shaded relief map of Antarctica showing age of overlying ice sheets.
Uncolored is less than 1000 years old. (Drill sites from US ITASE project) (Map from US NOAA)



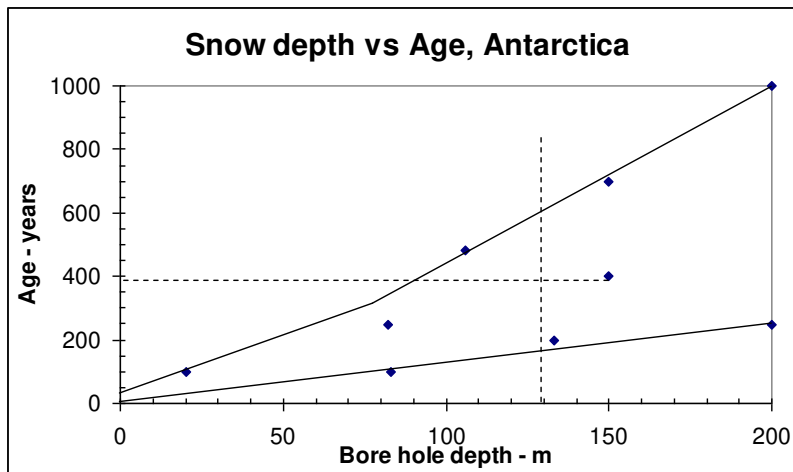
9,577 BC: Atlantic Ocean Tsunami

The northern half of the continent measures $4170 \text{ km} \times 1540 \text{ km} = 6.4 \text{ million km}^2$. Ice thickness in the north averages around 130 m, accumulated in 1000 years. Ice thickness in the south averages around 800 m. The difference, 670 m, is missing, 4.3 million km^3 .

It appears that when a satellite of Marduk sank Atlantis, another satellite disintegrated over northern Antarctica and evaporated 130 m of ice totaling 800,000 km^3 , which raised sea level by 2.2 m. The curve of the Earth protected the southern half, and a high mountain protected the site Dome F.

If 130 m represents snow cover down to bedrock, then its age was around 390 years (Figure 3, Snow depth vs age). This suggests that 390 years earlier, $9577 + 390 = 9967 \text{ BC}$, a similar event also removed snow down to bedrock. Absolute sea level does in fact show a jump of 1.8 m around 9975 BC (Figure 1).

Figure 3: Snow depth vs Age in northern Antarctica. (US ITASE Project)



Atlantic Flood from Atlantis to Bosphorus

Before Atlantis sank, the poles were in reverse position (see Part 3: Nibiru).

I find it impractical to give directions with a shifted pole, so **I will pretend that the hemispheres had not been reversed.** It makes no difference to the physics.

According to the Egyptian priest of Sais, after defeating the army of Atlantis, the Greek army then drowned from a flood near Athens. Is this possible? Yes, because a low route exists from Atlantis, across Poland, around the Ukraine, south to the Black Sea, hence through the Bosphorus Strait to the Aegean Sea.

Route of Atlantis Flood across Northern Europe

Beginning at the center of Rockall Plateau, a low-level route to the Bosphorus crosses Ireland, Britain, Denmark, Germany, Poland, Belarus, Ukraine and the Black Sea. The eastward fraction of the flood arrived at Ireland about 1500 m high and 250 km wide with a peak of 2100 m. The mountains of Ireland and Britain are low compared to the tsunami and offered no impediment. The most significant loss occurred while crossing the low mountains between Poland and Belarus (Figure 4).

Atlantic Flood from Atlantis to Bosphorus

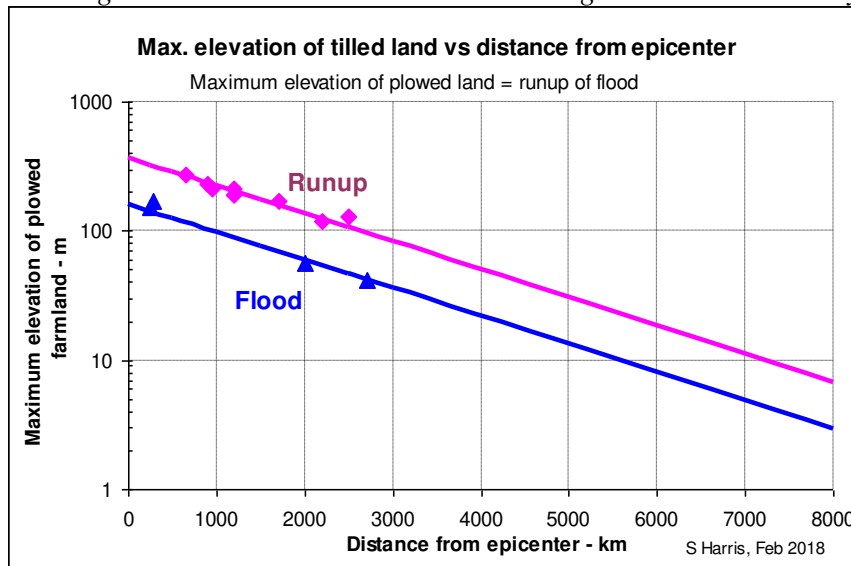
Figure 4: Low route over Britain through Belarus to Bosphorus is 4500 km long.
The Scandinavian Ice Sheet ended near the top of this image.



A large tsunami crossing dry land declines logarithmically in height. Measured data from the 2194 BC tsunami of Frisland across flat land bordering the Baltic Sea suggests a constant slope on a semi-log plot (Figure 5) (Harris, 2018).

$$h = h_0 * 10^{(-.00022*s)}, \text{ where } s \text{ is in km, } h \text{ in meters.}$$

Figure 5: Measured decline in wave height vs distance on dry land.



Submergence of Ireland and Britain

The Atlantis tsunami averaged 1500 m high at western Ireland. Obstructions up to half the total depth have little effect, so it passed over Ireland without change. The tsunami arrived at Britain 1200 m high; only the highlands of Scotland offered token resistance (Figure 6).

9,577 BC: Atlantic Ocean Tsunami

Figure 6: Elevation of United Kingdom above 600 m.



Extinction of megafauna in Britain

In 10,000 BP uncorrected radiocarbon years, the megafauna of Britain utterly vanished (Table 1, Coard and Chamberlain, 1999). Into the void drifted smaller animals from southern Europe, followed by hunters like *Homo sapiens*.

Atlantic Flood from Atlantis to Bosphorus

Table 1: Extinction of species in Britain in 10 ky BP (Coard & Chamberlain, 1999).

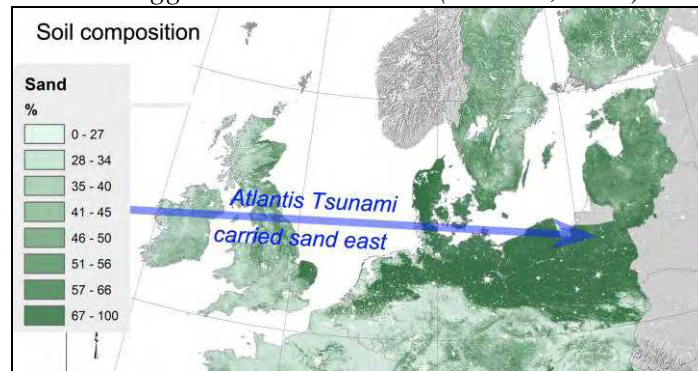
Period site: Date (¹⁴ C kyrs BP):	Late Devensian (>10.0)	Early Holocene (<10.0)
<i>Alopex lagopus</i>	✓	
<i>Bison priscus</i>	✓	
<i>Coelodonta antiquitatis</i>	✓	
<i>Crocota crocuta</i>	✓	
<i>Dicrostonyx torquatus</i>	✓	
<i>Equus ferus</i>	✓	*
<i>Gulo gulo</i>	✓	
<i>Lemmus lemmus</i>	✓	
<i>Mammuthus primigenius</i>	✓	
<i>Megaloceros giganteus</i>	✓	
<i>Microtus gregalis</i>	✓	
<i>Microtus oeconomus</i>	✓	*
<i>Ochotona pusilla</i>	✓	
<i>Ovibos moschatus</i>	✓	
<i>Panthera leo</i>	✓	
<i>Rangifer tarandus</i>	✓	*
<i>Saiga tatarica</i>	✓	
<i>Spermophilus</i> sp.	✓	
<i>Alces alces</i>	✓	✓
<i>Arvicola terrestris</i>	✓	✓
<i>Cervus elaphus</i>	✓	✓
<i>Canis lupus</i>	✓	✓
<i>Homo sapiens</i>	✓	✓
<i>Lepus timidus</i>	✓	✓
<i>Microtus agrestis</i>	✓	✓
<i>Ursus arctos</i>	✓	✓
<i>Vulpes vulpes</i>	✓	✓
<i>Apodemus</i> spp.		✓
<i>Bos primigenius</i>	#	✓
<i>Capreolus capreolus</i>		✓
<i>Castor fiber</i>		✓
<i>Clethrionomys glareolus</i>		✓
<i>Felis silvestris</i>		✓
<i>Lepus capensis</i>		✓
<i>Lynx lynx</i>	#	✓
<i>Micromys minutus</i>		✓
<i>Muscardinus avellanarius</i>		✓
<i>Sciurus vulgaris</i>		✓
<i>Sus scrofa</i>		✓
Insectivora		✓
Mustelidae (excluding <i>Gulo</i>)		✓

Flood across Doggerel Bank carried sand eastward

Doggerel Bank, the land between Britain and Denmark, was primarily a sandy delta of the Rhine. The tsunami scraped off the top layer of sand and carried it east, depositing it in the lowlands of Denmark, Sweden, Germany, Poland, the Baltic States, and Ukraine (Figure 7).

9,577 BC: Atlantic Ocean Tsunami

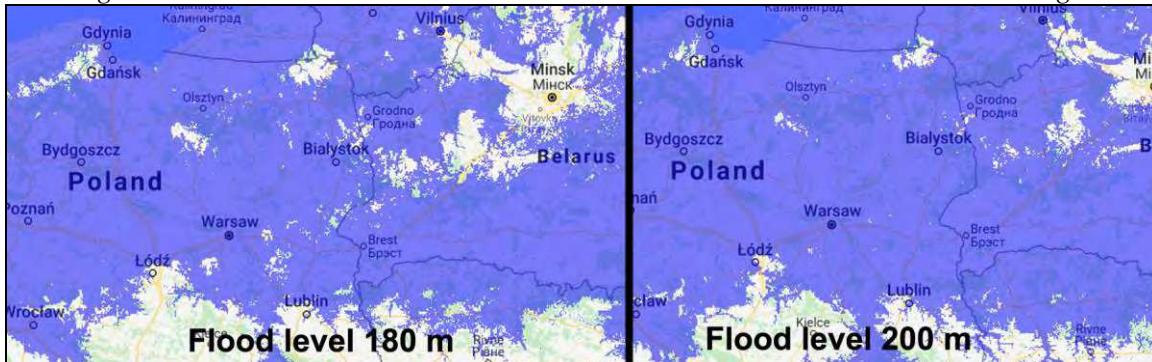
Figure 7: The Atlantis Tsunami carried sand from the Rhine delta at Doggerel Bank eastward (Baliabo, 2016).



Mountains between Poland and Belarus

The last hurdle was the mountains between Poland and Belarus, 2700 km away (Figure 8). They form an intermittent barrier at 180m that the wave overcame, and no barrier at 200 m.

Figure 8: The mountains between Poland and Belarus are less than 200 m high.



Average tsunami height on a flat plane declined to 505 m at Belarus. Average mountain height at Belarus of 180 m lowered the tsunami to 325 m, which was partially offset by a 13% runup on the higher elevation. Final height was 362 m.

$$1500 \text{ m} * 10^{(-.00022 * (2700 \text{ km} - 550 \text{ km}))} = 1500 \text{ m} * 0.337 = 505 \text{ m on a flat plane}$$

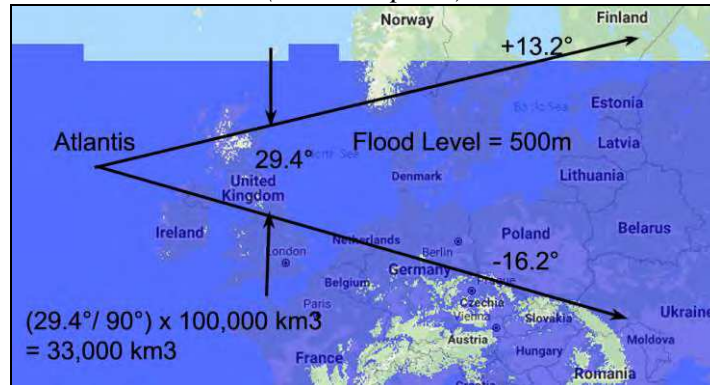
$$505 \text{ m} - 180 \text{ m} = 325 \text{ m clearance of the tsunami without runup}$$

$$325 \text{ m} * (505 \text{ m} / 325 \text{ m})^{.25} = 325 \text{ m} * 1.116 = 362 \text{ m clearance over Belarus}$$

Volume of the eastern component of the tsunami began with $\frac{1}{4} \times 400,000 \text{ km}^3 = 100,000 \text{ km}^3$. One-third passed between the mountains of Norway and Germany, 33,000 km³ (Figure 9).

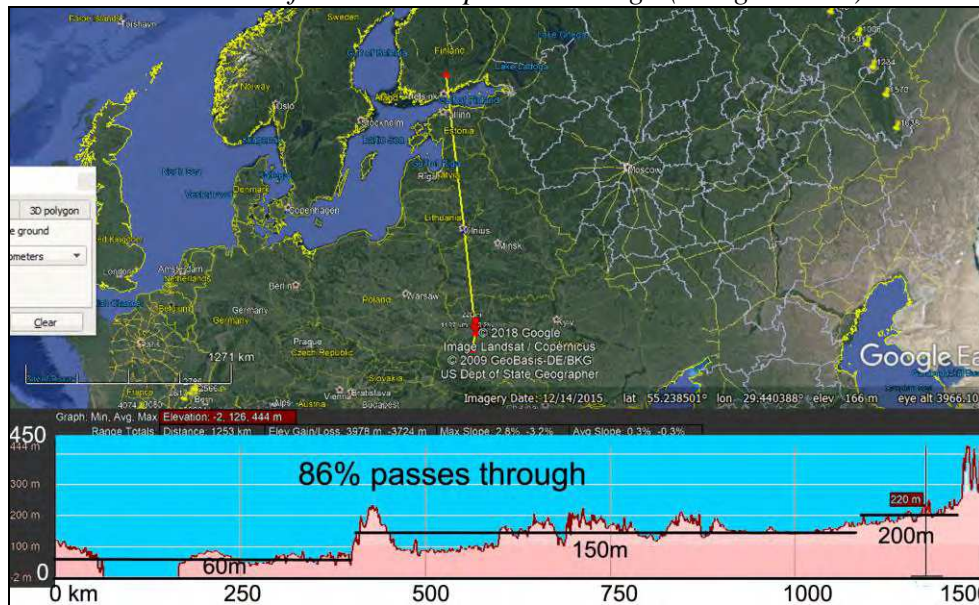
Atlantic Flood from Atlantis to Bosphorus

Figure 9: One third of the eastern component of the flood passed between the mountains of Norway and Germany, totaling 33,000 cubic kilometers. (Floodmap.net)



Between the ice sheet covering Finland and the mountains of the Ukraine, most of the remaining tsunami passed through, totaling $86\% \cdot 40,000 \text{ km}^3 = 34,000 \text{ km}^3$ (Figure 10).

Figure 10: A transection from Finland to Ukraine shows most of the tsunami passed through (Google Earth).



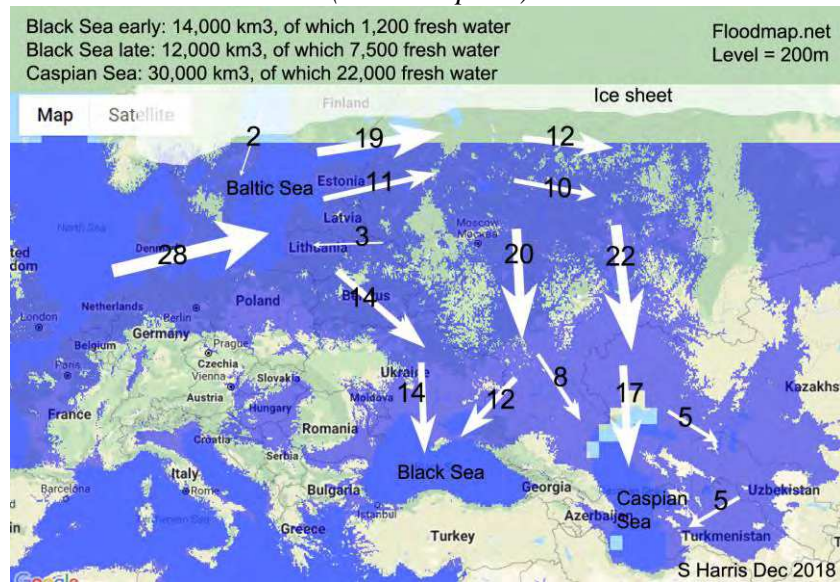
Going East the flood encountered some mountains which returned 3,000 km³ of sea water back to the Baltic Sea, plus perhaps 2000 km³ of meltwater from the ice sheet over Sweden.

Flood waters divide between Black Sea and Caspian Sea

At the Ukraine, the tsunami followed various routes (Figure 11). The Black Sea received two pulses of 14,000 and 12,000 km³, of which 8,700 was fresh water. The Caspian Sea received three pulses of 17,000, 8,000 and 5,000 km³, of which 22,000 was fresh water.

9,577 BC: Atlantic Ocean Tsunami

Figure 11: Saline and fresh-water volumes going east.
(Floodmap.net)



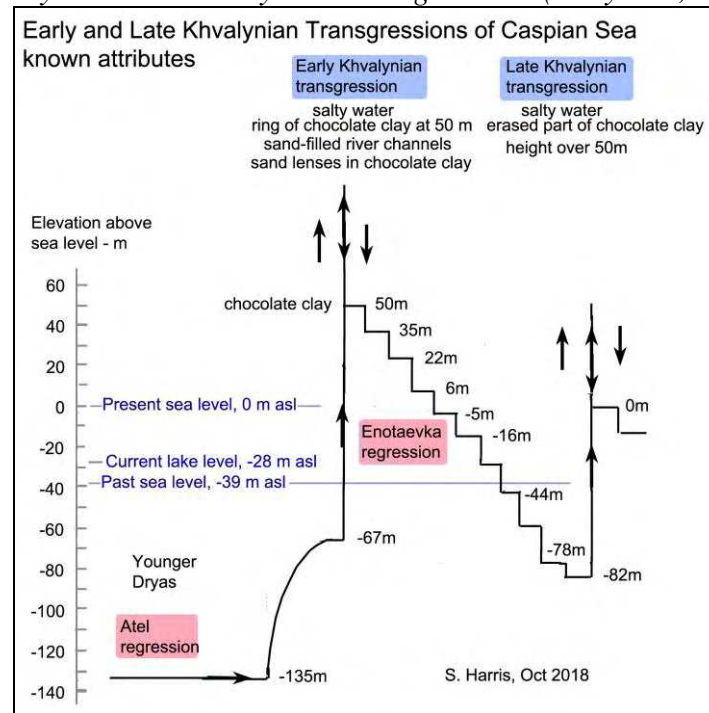
Late Khvalynian Transgression of the Caspian Sea: +82 m in 9580±17 BC

During the early Holocene, the Caspian Sea experienced two catastrophic floods named **Early Khvalynian Transgression** and **Late Khvalynian Transgression**. Both were instantaneous because no intermediate steps occur. Based on the kind of shellfish, the salinity of each was about one-third that of sea water; therefore, the floods originated in an ocean.

The Early Khvalynian came from the direction of the Arctic Ocean, evidenced by the unusual mud it brought, the second from the Atlantic Ocean, the Atlantis tsunami. Ekaterina Badykova (2007) summarized what is known (Figure 12).

Late Khvalynian Transgression of the Caspian Sea: +82 m in 9580±17 BC

Figure 12: Plot of Early and Late Khvalynian Transgressions (Badykova, 2007).



Both resulted from a tsunami because: 1) rain and melting of the ice sheet could not provide enough water in such a short period of time, 2) emptying of lakes would not provide salt, 3) an oceanic tsunami would have enough volume, but the sea water must be diluted.

Early Khvalynian raised the level of the Caspian Sea 123m, from -67m to +50m asl, where it ponded at the level of the outlet sill to the Black Sea. Volume required was 70,000 cubic kilometers. A great amount of fine silt settled out and left a bath-tub ring of chocolate-colored clay 1 to 6m thick around an area 2½ times larger than the present Caspian Sea. The primary component of the mud, illite, comes from Pre-Cambrian rocks of the Baltic Shield east of the Scandinavian ice sheet and north of the Caspian drainage divide. Within the mud is a one-time spike of pine pollen. Egyptians did **not** record a flood from the Bosphorus.

Between these two events, the level of the Caspian Sea dropped -134m in nine steps from +52m to -82m asl, called the **Enotaevka Regression**. Badykova estimated a minimum of 400 years to create this many discrete steps, and probably closer to 1000 years.

Late Khvalynian raised the Caspian Sea level 82 m, from -82m to +0m asl, where it ponded at the level of the outlet sill to the Black Sea, substantially above sea level at -39m asl. This tsunami wiped out most of the chocolate clay layer in the northern part of the Caspian Sea Basin, which indicates that its height was over 50 m asl. Volume required was 30,000 km³. Afterwards, fresh water diluted salty water in the north part of the Caspian Sea. This time Egypt recorded a devastating flood that lasted a day and a half.

Reported dates from cores of the Late Khvalynian Transgression exhibit a tight cluster of radiocarbon dates centered on 10,000 RC BP (9580 ±17 BC), which aligns with the Atlantis Tsunami of 9577 BC.

Radiocarbon dates in the Caspian Sea are wildly inconsistent, between 9 and 30 ka BP, which indicates contamination by old carbon. The greater the depth, the greater the

9,577 BC: Atlantic Ocean Tsunami

contamination. Only the youngest dates are acceptable, between 9 ka and 14 ka BP, which is about the same BC.

Old carbon comes from release of trapped oil, gas, naphtha or methane hydrates when overlying sediments are stripped off by either a turbidite or a tsunami. The Caspian Sea is Russia's largest producer of oil and gas; major fields lie beneath presently exposed lake bottom in the north. Before drilling began, spontaneous oil eruptions were reported from fields close to the surface.

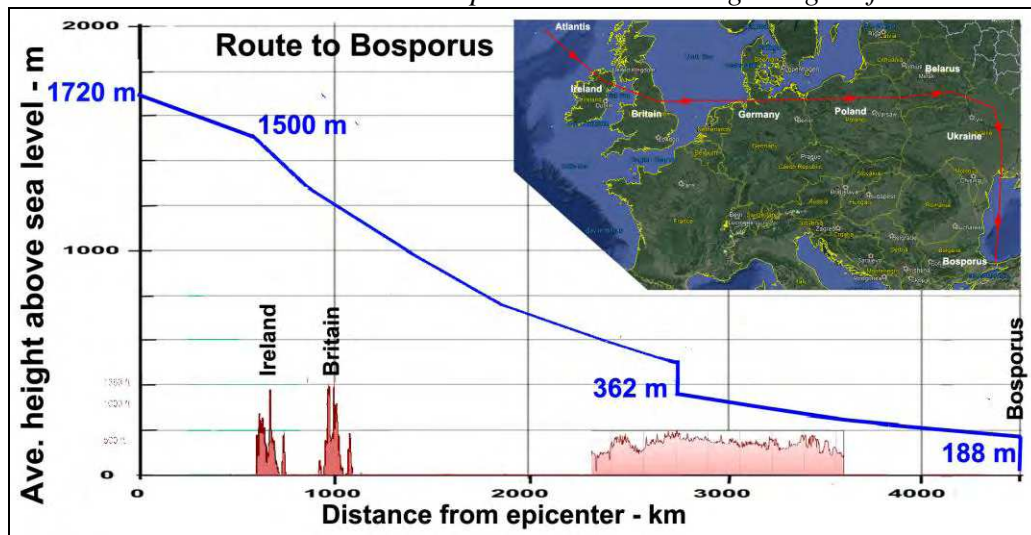
Route from Belarus to Bosphorus

The short route of the tsunami travelled 1300 km from Belarus to the Bosphorus, gradually losing height from 362 m to 188 m (Figure 13).

$$362 \text{ m} * 10^{(-.00022 * 1300 \text{ km})} = 362 \text{ m} * 0.517 = 188 \text{ m}$$

Figure 13: Route over the British Isles and Belarus.

The tsunami arrived at the Bosphorus with an average height of 188 m.



The long route had basically the same 200 m impediment of mountains, but travelled 3400 km.

$$362 \text{ m} * 10^{(-.00022 * 3400 \text{ km})} = 362 \text{ m} * 0.179 = 65 \text{ m}$$

Late Drevnechernomorian Transgression of the Black Sea: +48 m in 9580±17 BC

Lake level for the Late Drevnechernomorian Transgression of the Black Sea rose from -40 m asl to +8 m asl. (Larenkov and Kadurin, 2011)

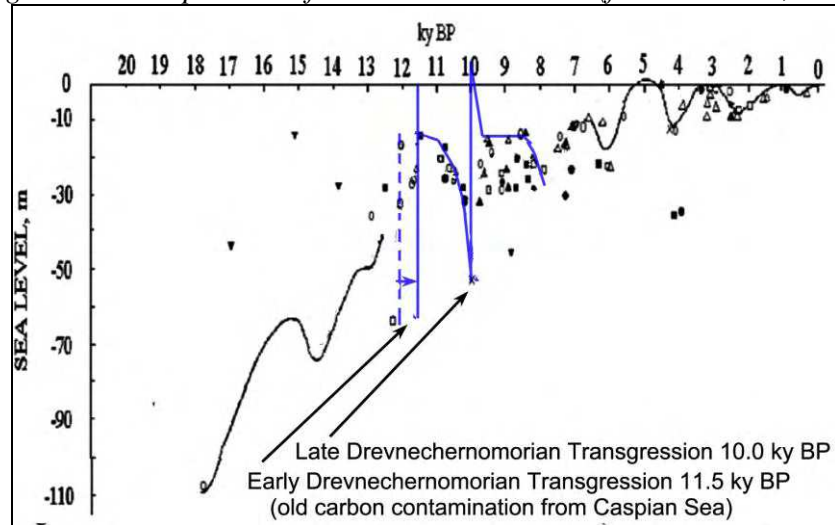
The Late Drevnechernomorian Transgression of sea water in the Black Sea occurred before 8.9 ka BP. Afterward, lake level fell to -18 m asl (Yanko-Hombach, 2013).

The Late Drevnechernomorian Transgression occurred around 10.0 ky BP [9580±17 BC]. Lake level rose from -52 m to an unknown height, then fell back to -15m (Konikov et al, 2007).

Increase in lake volume was about 14,800 km³

$$\text{volume increase} = \text{Area} * \text{height} = 400,000 \text{ km}^2 * (0.052 - 0.015 \text{ km}) = 14,800 \text{ km}^3.$$

Figure 14: Compilation of dates and lake levels (from Konikov, 2007)



Atlantic Flood from Bosphorus to Egypt

The flood through the Bosphorus occurred in two stages.

The early stage took the shortest route and raised the level of the Black Sea from -50 m to -15 m. It required 14,800 km³ of water, which was highly saline and cold, and still occupies the bottom of the Black Sea.

The late stage went a longer route and added to its initial volume with fresh water from erosion of the Scandinavian ice sheet.

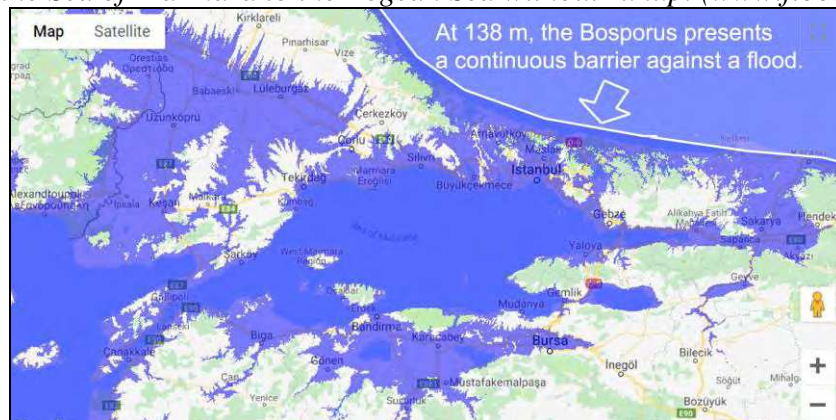
Flood through the Bosphorus

With an average height of 188 m, the tsunami hit the Bosphorus traveling 300 kph (Figure 15).

$$v = 2 \cdot (g \cdot h)^{1/2} = 2 \cdot (9.8 \cdot 188)^{1/2} = 86 \text{ meters per second or } 309 \text{ kph}$$

Black Sea level was -50 m asl, which reduces the effective wave height to 138 m.

Figure 15: Path of 138 m flood from the Black Sea across the Bosphorus, through the Sea of Marmara to the Aegean Sea without runup. (www.floodmap.net)



Maximum runup is given by the Stockdon equation:

$$15) R_{\max} = 0.043(H_0 L_0)^{1/2}$$

9,577 BC: Atlantic Ocean Tsunami

where H_0 = deep-sea wave height and L_0 = deep-sea wave length. For $H_0 = 0.188$ km and $L_0 = 300$ km, then

$$R_{\max} = 0.043(0.188 \times 300)^{1/2} = 0.323 \text{ km}$$

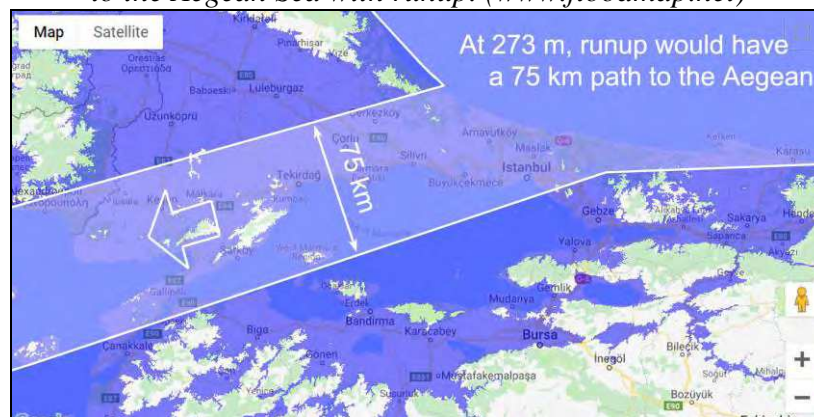
Before the flood, Black Sea level was -50 m asl, which reduced the runup level from 323 m to 273 m, but still opened a channel 75 km wide (Figure 16).

Subtracting 188 m from 323 m gives 135 m of wave cleared the Bosphorus. Speed slowed down as did wavelength, the new length being reduced by the square root of the two heights.

$$L_1 = 300 \text{ km} \times (135 \text{ m} / 188 \text{ m})^{1/2} = 300 \times 0.85 = 255 \text{ km}$$

Into the Aegean flowed a bore measuring $0.135 \text{ km} \times 75 \text{ km} \times 255 \text{ km} = 2600 \text{ km}^3$.

Figure 16: Path of tsunami from the Black Sea through the Sea of Marmara to the Aegean Sea with runup. (www.floodmap.net)



Erosion of escarpment at the Sea of Marmara

As it plunged from the Black Sea to the Sea of Marmara, it severely eroded the north shore of the Sea of Marmara, so that it resembled Niagara Falls (Figure 17).

Figure 17: Eroded cliff on the north shore of the Sea of Marmara. (Google Earth)



Scouring of bottom of Aegean Sea

Entering the Aegean Sea, it scoured the entire width of the Aegean Sea (Figure 18).

Figure 18: Scoured bottom of the Aegean Sea created by a high-speed flood from the direction of the Sea of Marmara. (Google Earth)



Drowning of Athens

The flood pulse into the Aegean Sea had an average height of $(273-138) = 135$ m, an average width of 75 km, and a wave length of 255 km, giving a volume of 2600 cubic kilometers.

Athens lies 687 km from the Bosphorus. Using 135 m as an initial tsunami, then it would decline to 95 m. Sea level was 40 m lower, so flood level was 55 m (Figure 19). Normally Athens was protected from a tsunami by a string of tall islands, but this is more like a rising tide than a tsunami. Speed of a 95 m high bore is 157 kph.

The port of Athens is Piraeus, on a low hill east of the docks. The nearest safe hill from Piraeus is 4 km away. If someone spotted the wave 10 km out to sea, they had 4 minutes to reach safety. A horse can travel 3.2 km in that time, but not 4 km. According to the Egyptian priest, they all perished.

Figure 19: A flood of 95 m, with sea level being 40 m lower than today, would drown the port of Piraeus, where the Athenian navy was stationed. (www.floodmap.net)



The flood continued at a lesser rate for many more hours as waves with longer routes arrived. These then bounced off various land masses around the Mediterranean for a day and a night.

The tsunami travelled 4500 km to Athens at an average depth of 700 m, which gives an average speed of 600 kph. At this velocity, it arrived 9 hours after the strike.

9,577 BC: Atlantic Ocean Tsunami

Flood mark on Great Pyramid of Giza

After crossing the Mediterranean from Greece, the tsunami flooded the Nile Delta. Was it responsible for a flood mark 73 m (240 feet) up the side of the Great Pyramid of Giza?

The base of the Great Pyramid lies 60 m above sea level. In 9577 BC, absolute sea level was 39 m lower. Therefore, absolute height of the base was $60 + 39 = 99$ m asl, and the pyramid watermark 172 m asl. The nautical distance between the Bosphorus and the pyramid is 1580 km, so the average flood height would have been 60 m, not high enough to flood the base.

$$135 \text{ m} * 10^{(-.00022*1580 \text{ km})} = 135 \text{ m} * 0.45 = 60 \text{ m average height}$$

But the plateau would experience runup, as would the pyramid.

$$R_{\max} = 0.043(0.06 \text{ km} * 255 \text{ km})^{1/2} = 0.167 \text{ km} = 167 \text{ m asl}$$

Thus, average wave runup was just shy of the pyramid mark of 172 m, which indicates that the Atlantis flood probably was responsible for a mark on the pyramid.

Before removal of the pyramid's outer casing stones, one could see water marks on the stones halfway up the pyramid's height, at about the 240-foot level, which would be 400 feet [122 m] above the present Nile level.

This flood mark appears to date construction of the Great Pyramid to before 9600 BC. Numerous arguments for later construction have been demolished, one by one.

There existed a fourteen-foot layer of silt sediment around the base of the Pyramid, a layer which also contained many seashells, and the fossil of a sea cow, all of which were dated by radiocarbon methods to $11,600 \pm 300$ B.P. [9650 ± 300 BC].

When the Pyramid was first opened, incrustations of salt an inch thick were found inside. Most of this salt is natural exudation from the chambered rock wall, but chemical analysis also shows some of the salt has a mineral content consistent with salt from the sea. (Jochmans, 2002)

Atlantic Flood from Atlantis to Western Europe

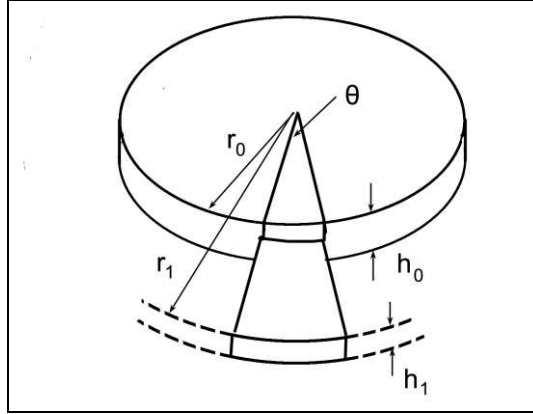
A quarter of the Atlantis tsunami radiated south from Rockall Plateau. The initial wave measured 325 km long, 300 km wide, 1600 m high, above a depth of 1 km. At a speed of 575 kilometers per hour, it took just 34 minutes to clear Rockall Plateau.

$$\text{velocity} = [g*(D+A)]^{1/2} = (9.8*2600)^{1/2} = 160 \text{ m/s, equivalent to } 575 \text{ kph}$$

Calculation of maximum runup

To model tsunami height going south takes some ingenuity. To simplify the math, assume sea level depth stays constant. Start by finding the height and width of the tsunami just after it cleared the plateau, when the shape changed from a pie wedge to an expanding ring (Figure 20).

Figure 20: Model of initial ring of expanding tsunami.



Within a narrow angle theta, at constant depth of the ocean, total volume of a tsunami above sea level stays constant. Using radial coordinates, the initial volume is a slice of angle θ , radius r_0 , and depth h_0 :

$$1) \quad V_0 = (\theta/2\pi)(\pi r_0^2)h_0$$

Immediately after leaving the plateau, its volume is:

$$2) \quad V_1 = (\theta/2\pi)(\pi r_1^2 - \pi r_0^2)h_1$$

Setting the two volumes equal, θ and π drop out:

$$3) \quad V_0 = V_1$$

$$4) \quad h_0 r_0^2 = h_1(r_1^2 - r_0^2), \text{ which factors into } h_1(r_1 - r_0)(r_1 + r_0)$$

V_1 can also be estimated by modeling the initial slice as a triangle whose average height is $2/3$ of the radius from the epicenter. V_2 can be estimated as a trapezoid.

$$5) \quad V_0 = (\theta/2\pi)h_0(2/3 r_0)$$

$$6) \quad V_1 = (\theta/2\pi)h_1(r_1 + r_0)/2$$

Setting volumes (5) and (6) equal, θ and π drop out:

$$7) \quad 2/3 h_0 r_0 = 1/2 h_1(r_1 + r_0)$$

Solving for h_1 :

$$8) \quad h_1 = 4/3 h_0 r_0 / (r_1 + r_0)$$

Substituting h_1 of (8) into equation (4) and simplifying, the height terms drop out:

$$9) \quad h_0 r_0^2 = 4/3 h_0 r_0 (r_1 - r_0)(r_1 + r_0) / (r_1 + r_0)$$

$$10) \quad r_0 = 4/3(r_1 - r_0)$$

Now solving (10) for r_1 :

$$11) \quad r_1 = 7/4 r_0$$

Substituting real numbers, the width of the initial expanding tsunami ring at 1 km depth is:

$$w_1 = r_1 - r_0 = (7/4 - 4/4)r_0 = 3/4 r_0 = 0.75 * 325 \text{ km} = 244 \text{ km}$$

Average radius of the expanding ring:

9,577 BC: Atlantic Ocean Tsunami

$$r_{ave} = (r_0 + r_1)/2 = (7/8 + 4/8)r_0 = 11/8 r_0 = 1.375 * 325 \text{ km} = 447 \text{ km}$$

Average height of the expanding ring from (8):

$$h_1 = 4/3 h_0 r_0 / (r_1 + r_0) = 4/3 / (4/4 + 7/4) h_0 = 16/33 * h_0 = 0.485 * 1600 \text{ m} = 776 \text{ m}$$

For any distance r_2 , wave height h_2 varies inversely as distance at a depth of 1 km.

$$12) \quad h_2 = h_1(r_{avg}/r_2) = 776 \text{ m} (447 \text{ km} / r_2)$$

At a far-away shore, water depth equals wave height h_3 , which varies inversely as the fourth root of water depth. Initial water depth d_0 was 1000 m. To this is added the height of the wave h_1 because it is large in comparison with water depth. Normally this correction is ignored because tsunami height is trivial compared with ocean depth.

$$13) \quad h_3 = h_2[(d_0 + h_1)/h_2]^{1/4} = h_2 [(1000 + 776)/h_2]^{1/4}$$

Once on dry land, the velocity of water increases as the square root of height. This speedup is not seen on ordinary, small tsunamis but is evident with a dam bursts.

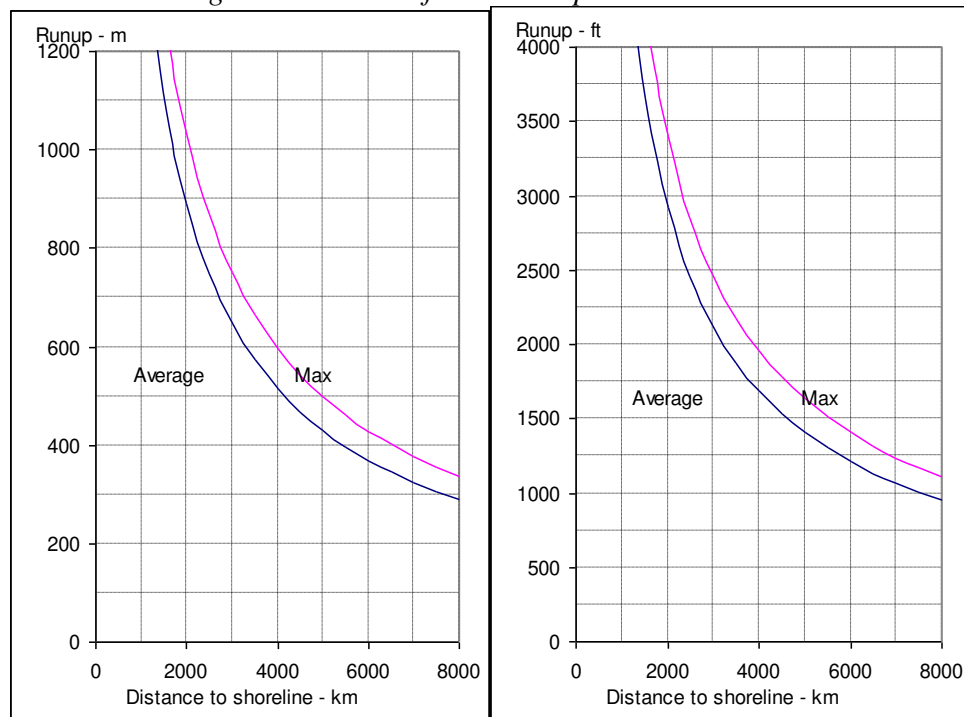
$$14) \quad v_3 = 2 (g h_3)^{1/2}$$

Hilary Stockdon et al. (2007) found experimentally that for slopes less than 10%, maximum runup is independent of slope and varies only by wave height and wave length.

$$15) \quad R_{max} = 0.043(H_0 L_0)^{1/2}$$

where H_0 = deep-sea wave height, L_0 = deep-sea wave length

Figure 21: Chart of Max Runup versus distance.



Flood stopped by Pillars of Hercules

The Strait of Gibraltar lies 2800 km from the epicenter. At constant ocean depth, tsunami height diminishes inversely as distance.

$$h_2 = h_1 * d_1 / d_2 = 776 \text{ m} * (447 / 2800) = 124 \text{ m}$$

Atlantic Flood from Atlantis to Western Europe

The strait averages 365 m deep, less 39 m for lower sea level, equals 326 m. Flood height increases by the fourth root of the inverse of ocean depth.

$$h_3 = 124 \text{ m} * (1776 / 326)^{1/4} = 124 * 1.53 = 189 \text{ m}$$

At an elevation of 189 m less 39 m = 150m, the Strait of Gibraltar is about 16 km wide (Figure 22). The flood through the Strait can be modeled as a thin strip measuring 240 km long x 16 km wide x 0.19 km high for a total volume of 730 cubic kilometers. Beyond the strait lies a rectangular basin 160 km wide by 300 km long by 1 km deep, which the flood filled 15 m higher.

$$h_4 = 730 \text{ km}^3 / (160 \text{ km} * 300 \text{ km}) = .015 \text{ km}$$

From this basin it flowed 2400 km to Athens. In open sea, height would decline to a meter.

$$h_5 = 15 \text{ m} * 150 / (2400 - 150) = 15 \text{ m} * 0.066 = 0.99 \text{ m}$$

At the shore, wave height would increase to 5.6 m, a good wave but not enough to completely drown an army.

$$h_6 = h_5 (d_5/h_5)^{1/4} = 0.99 \text{ m} * (1000 \text{ m}/.99 \text{ m})^{1/4} = 0.99 \text{ m} * 5.8 = 5.6 \text{ m}$$

Figure 22: Flood level of 164 m at the Strait of Gibraltar. (www.floodmap.net)



Flood into Spain and Portugal

On the Atlantic side of the Strait of Gibraltar, the tsunami had a big impact. The highest plowed fields mark the limit of the tsunami, where the flood ponded and dropped a load of silt. Ascending the Guadalquivir River Valley in southern Spain lie increasingly higher fields (Table 2):

Table 2: Highest plowed fields along the Guadalquivir River going upstream.

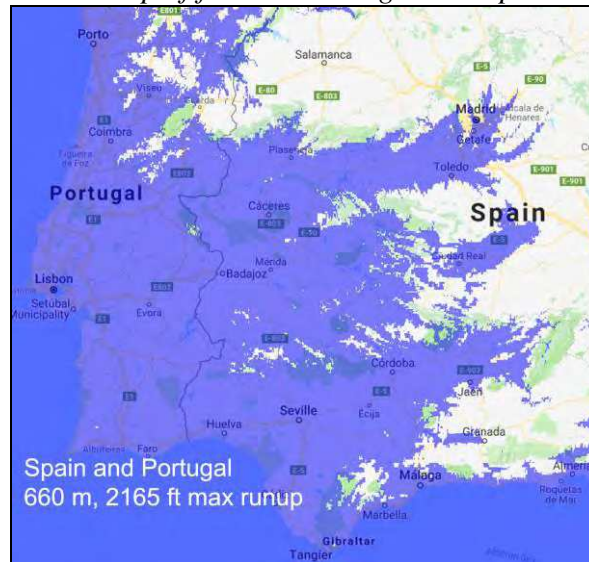
ht (m)	ht (ft)	Location
293 m	962 ft	Valverde del Camino
398 m	1306 ft	Veracruz
446 m	1465 ft	Jaen
492 m	1615 ft	along the river east of Veracruz
629 m	2064 ft	mountain top west of Cazorla
665 m	2181 ft	mountain top southeast of El Molar

At the southeast edge of the Guadalquivir River Valley, 2900 km from the epicenter, southeast of El Molar and west of Cazorla, dense agricultural fields occupy high land, not the river valley, with elevations ranging from 1250 to 2181 ft. The highest fields lie 3000 km from the epicenter.

9,577 BC: Atlantic Ocean Tsunami

Calculated average value of 2125 ft runup matches the field elevation. High mountains hem in these fields. Applying this measure to all of Spain and Portugal reveals the tsunami travelled all the way to Madrid, Toledo and Granada (Figure 23).

Figure 23: Maximum runup of flood in Portugal and Spain reached 660 m asl.



Flood into Morocco

In Morocco a similar situation exists, where plowed fields lie high above river valleys, such as at Souk Larbaa Megartou with 1900-2200 ft elevation.

Flood into France

The mountains of Clermont-Ferrand in central France lie 1700 km from the epicenter at Rockall Plateau. At this distance, maximum runup would be 1000 m (3300 ft). These mountains ought to have few plowed fields, but just the opposite is true; farms blanket the area up to 1220 m (4000 ft). This is because a rich, deep soil from volcanic ash enables plowing. A satellite view of flood level set at 800 m shows a pattern of fields radiating away from volcanic centers (Figure 24).

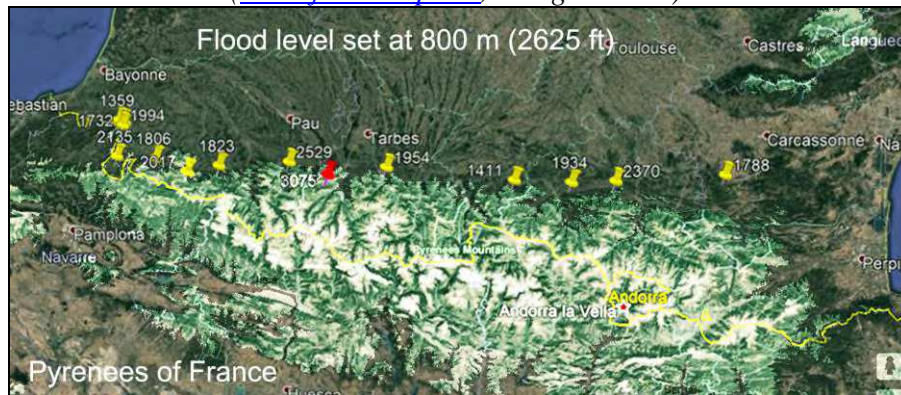
Figure 24: Plowed fields in the Clermont-Ferrand volcanic region go up to 1220 m (4000 ft), far above the 1000 m flood level. Shown below is the 800 m level, the highest available on www.floodmap.net.



Atlantic Flood from Atlantis to Western Europe

The Pyrenees mountains between France and Spain lie between 1900 and 2100 km from the epicenter at Rockall Plateau. At this distance, the maximum calculated flood level lies between 928 m in the west and 858 m in the east (3046 to 2816 ft). Figure 25 below sets flood level at 800 m and marks the highest plowed fields with yellow pins. A red pin marks an outlier south of Lourdes, 1960 km from the epicenter, at 937 m (3075 ft), 30 m above its calculated value of 906 m.

*Figure 25: Flood level of 800 m in the Pyrenees;
just beyond lie the highest plowed fields marked with yellow pins, and beyond that glaciers
(www.floodmap.net, Google Earth).*



Azilian chronology ends with Atlantis tsunami

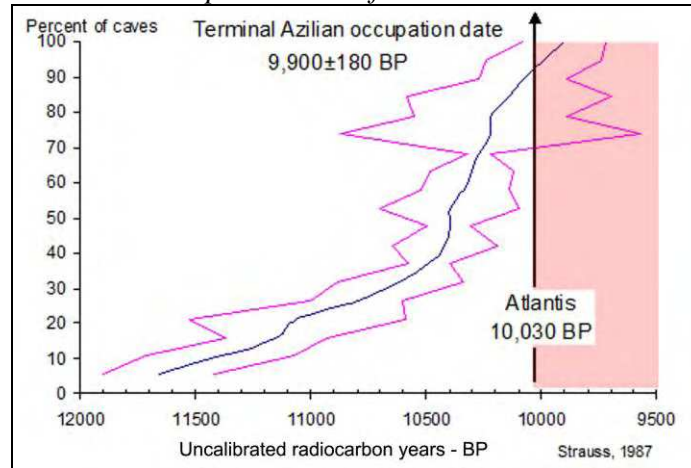
Northern Spain and southern France are famous for numerous limestone caves occupied by ice-age Neanderthals, then Chatelperron, then Homo sapiens, ending with Magdalenians and finally Azilians. At the same time Azilians died, so too did large animals.

Azilians lived from 15,500 to 11,500 cal BP. Their end date of 9550 BC is synchronous with the Atlantis tsunami of 9577 BC that drowned the Dordogne and northern Spain. Afterward, entirely different people moved in with New Stone Age tools that featured delicate slivers of flint glued into a bone handle or wood shaft. The divide is somewhat hazy because many Azilian sites also have chips of flint glued into handles. The only certain Azilian artifacts are a flat antler spearpoint and painted pebbles.

Lawrence Straus (1987) surveyed Azilian sites and provided detailed descriptions of those with radiocarbon dates. The youngest unequivocal terminal date falls within the Atlantis tsunami date (Figure 26).

9,577 BC: Atlantic Ocean Tsunami

Figure 26: Azilian terminal occupation dates from caves and rockshelters (Strauss, 1987).



El Miron Cave, Catabria

El Miron Cave in the foothills behind Bilbao, elevation 260m asl, has Azilian artifacts in Level 11, dated 10,270±50 BP and 10,390±50 BP. It is overlain by a thin red layer, a thin grey layer, then an unconformity of level 10.1, a thick, dark gray, ashy-clayey silt.

Los Azules I, Asturias

A small cave high in the mountains has Mousterian artifacts (level 5) capped by a sterile yellowish clay (level 4). Level 3 contains Azilian tools. A burial in Level 3 was dated 9540 ±120 BP below and 9430 ±120 BP above, but could be intrusive. Level 2 is a compact reddish clay, and Level 1 fills the cave to the top with yellowish clay. The most recent dates from the lowest part of level 3 are 10,330±190 and 10,400±90 BP on bone collagen.

Rascano, Sandander

A high cave with two Azilian RC dates of 10,485±90 and 10,560±245 BP.

Arenaza, Vizcaya

A cave with paintings, inland from Bilbao, has Azilian artifacts beneath Bed III dated 10,300±180 BP on charcoal.

Abri Duruthy, Landes

The youngest RC date for Azilian tools is 11,150±220 BP on bone.

Abri Dufare, Landes

Level 3 with Azilian tools has two dates of 9,600±290 and 10,610±270 BP.

Poeymaï, Pyrenees-Atlantiques

The youngest RC date for Azilian tools is 10,420 ±230 BP on bone.

Gazel, north of Carcassonne

Azilian harpoons and decorated pebbles at 10,080±190 BP.

Abri de la Tete du Chien, Tarn

Rockshelter with an Azilian industry having a RC date of 10,140±440 BP.

La Borie del Rey, Lot-et-Garonne

Azilian artifacts in Level 3 have dates of 10,400±230 and 10,350±340 BP on bone collagen.

Pegourie, Lot

Atlantic Flood from Atlantis to Western Europe

Azilian artifacts occur in levels 4 to 7. Level 4 dates are $11,390 \pm 320$ BP on bone and $8,310 \pm 220$ BP on shell. Two dates on shell from level 5 also measure 8,450 BC, so there is something wrong with the dating technique for shell.

Abri de Graves, Lot

Abundant Azilian lithics and decorated cobbles date to $9,900 \pm 180$ BP on bone.

Sainte-Eulalie, Espagnac

Level 1 contains a mixture of Magdalenian and Azilian tools such as a flat harpoon, dated $10,800 \pm 200$ and $10,400 \pm 300$ BP.

Le Pont d'Ambon, Dordogne

This small rockshelter has an Azilian Level 3 above a Magdalenian Level 4. Level 3a dates $9,830 \pm 130$ BP on bone, $9,990 \pm 250$ BP on bone, and $10,350 \pm 190$ BP on organic matter. Above this, Level 2 dates to $9,640 \pm 120$ BP.

Thoys I, Ain

A small rockshelter has an Azilian date of $10,220 \pm 650$ BP on charcoal.

Abri Gay, Ain

A huge rockshelter has an Azilian date of $11,660 \pm 240$ BP on bone.

Vieille Eglise, Haute-Savoie,

A rockshelter with an Azilian Layer 7A having a date of $9,820 \pm 200$ BP on collagen and $9,485 \pm 325$ BP on unspecified material. Not sure if Azilian as it lacks characteristic tools and seems too warm, hunting mostly ibex, no reindeer.

Rochedane, Doubs

Levels D2 and D1 contain Azilian tools dated $11,060 \pm 470$ BP on bone.

Mannlefelden, Haut-Rhin

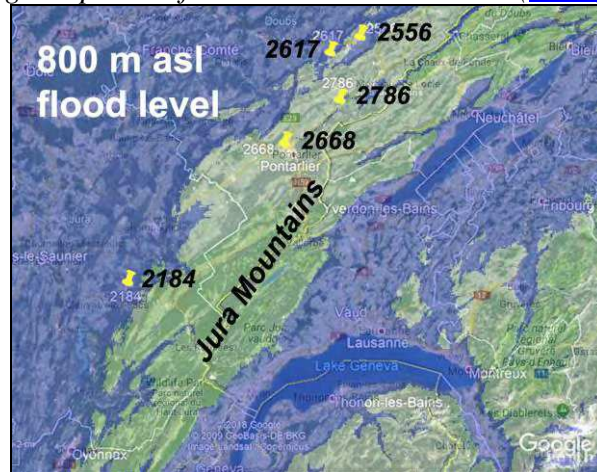
A rockshelter near Basel, Level S at Mannlefelden, laid down in severe cold conditions, has Azilian artifacts dated $10,220 \pm 330$ BP. Level R is sterile. Level Q was laid down in warm, humid conditions, and dates to $9,410 \pm 110$ BP.

Jura Mountains between France and Switzerland

The highest plowed fields on the Jura Mountains between France and Switzerland line the French side between 800 and 850 m asl (2617 to 2782 ft) (Figure 27). The Jura Mountains lie 1950 km from the epicenter at Rockall Plateau; from the chart, average flood level was 950 m, somewhat higher than the typical field. A cluster of fields further south was at 933 m, just shy of the flood limit.

9,577 BC: Atlantic Ocean Tsunami

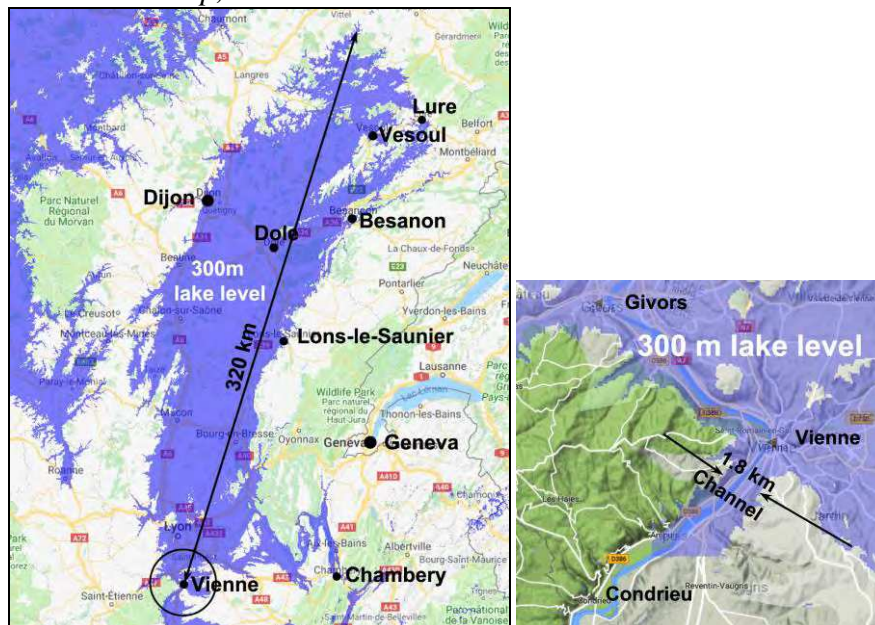
Figure 27: Highest plowed fields on Jura Mountains. (www.floodmap.net).



Saône Valley Lake at 300m asl

When the flood waters retreated from the Jura Mountains, they ponded to form an immense lake parallel to the mountains, 320 km long, with an outlet at Vienne (Figures 28 and 29). Silt dropped from the flood waters onto a gravelly plain, which created a soil suitable for deep plowing. Drained by the Saône and Doubs River, this lake has not been named, but Saône Valley Lake will suffice.

Figure 28: The initial Saône Valley Lake was 320 x 74 km, 300 m asl.
The steep, narrow outlet at Vienne is now 1.8 km wide.



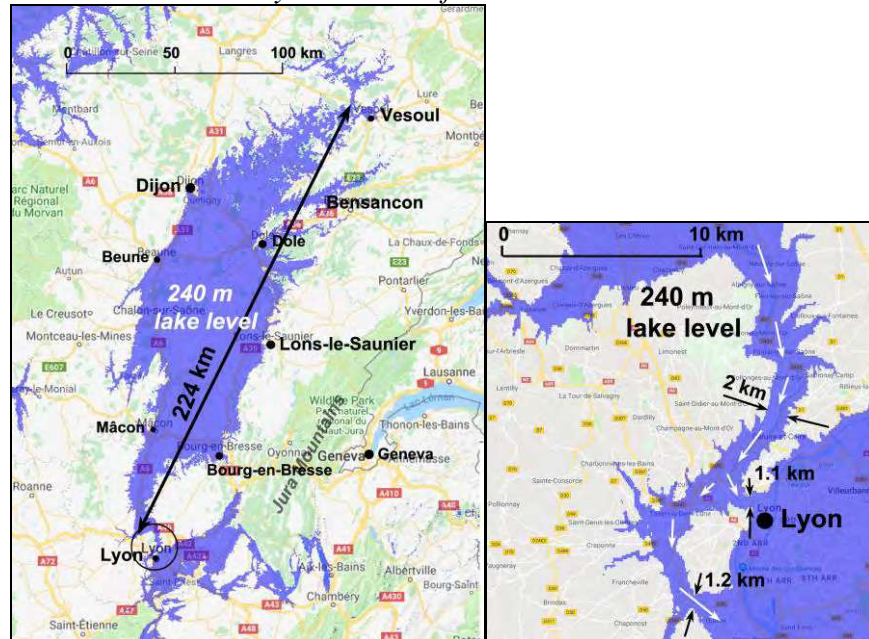
Saône Valley Lake at 240 m asl

As flood waters cut the Vienne outlet deeper, a new outlet emerged at Lyon with lake level at 240 m asl (Figures 29 and 30). Now called the Bressan Plain, this entire region is nearly flat, drained by the sluggish Saône and Doubs Rivers. Low, gravelly hills emerge from a dense network of silty agricultural fields that generally grow grains (Figures 31 and 32). Villages are spaced about 13 km apart. Large cities shun the plains and locate around the periphery of the old lake.

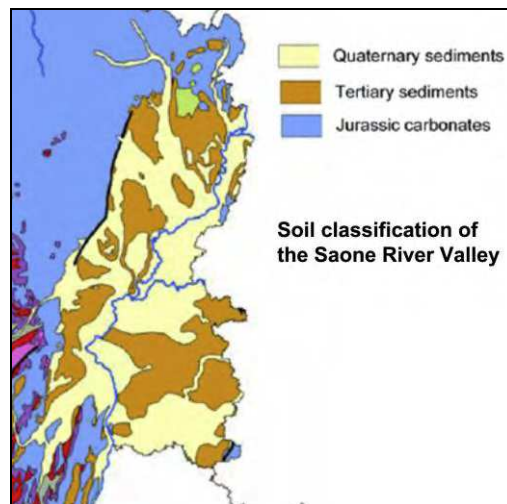
Atlantic Flood from Atlantis to Western Europe

Vineyards thrive on the Jurassic carbonate soil of south-facing hills rising from the western edge of the lake.

*Figure 29: Saône Valley Lake at 240 m asl, 224 km long, 62 km wide.
The outlet at Lyon narrows from 2.0 km to 1.2 km wide.*



*Figure 30: Soil classification of the Saône River Valley
shows islands of gravelly tertiary sediments separated by silty quaternary sediments.*



9,577 BC: Atlantic Ocean Tsunami

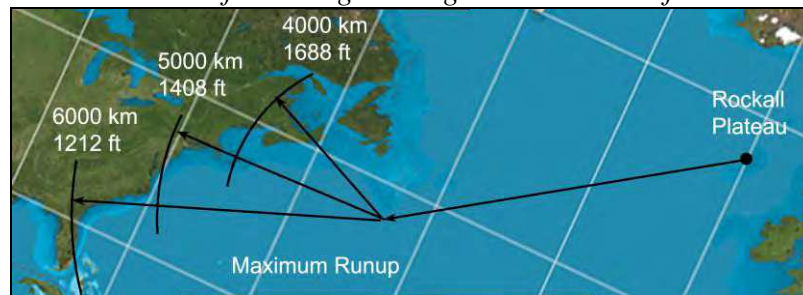
Figure 31: Traces of field consolidation in the Bressan Plain suggest that the population density was much higher in the past.



Atlantic Flood from Atlantis to North America

Maximum flood level in the Americas follows the same logic as for Gibraltar.

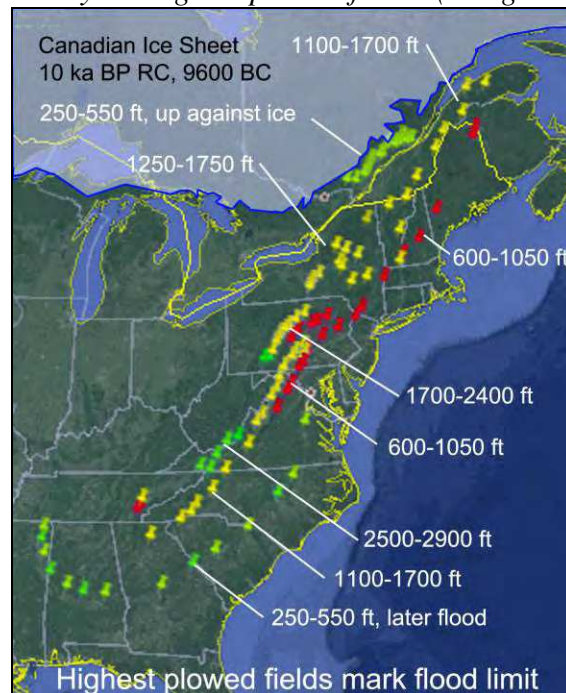
Figure 32: Maximum flood height along the east coast of North America.



Map of the highest plowed fields along the East Coast

The highest plowed fields in North America lie in several bands on the east side of mountains parallel to the coast (Figure 33).

Figure 33: Overview of the limit of the tsunami along the East Coast marked by the highest plowed fields. (Google Earth)



An earlier turbidite and flood at the Blake Escarpment

The highest plowed fields along the east coast lie within the Blue Ridge Mountains of western Virginia and North Carolina, shown as green pins in the figure below, typically 2900 ft (880 m). South of West Jefferson, a deep layer of fine sediment fills the valley along US Route 221, where contractors struggle to widen the slopes for a freeway. The highest plowed field at West Jefferson is 3100 feet above sea level, at the end of a valley. This is so much higher than the Atlantis flood level of 945 feet that it suggests another mechanism.

A glance at Google Earth reveals a huge piece of the continental shelf east of Jacksonville has slipped down into the deepest part of the Atlantic. The missing piece, between Blake Ridge and Blake Escarpment, measures 166,000 square kilometers, 90% of the size of Atlantis. At Charleston, the eastern edge of the missing turbidite begins as a 1000-foot cliff. It tapers down for 175 km to 3600 feet, then falls off a cliff at the edge of the shelf to the ocean bottom 14,000 feet deep. The original sharp edge of the Blake Escarpment has been rounded by the turbidite. Three steps are visible, later pieces lying on earlier pieces, which further raised sea level above the turbidite. From the center of the stepped pieces to West Jefferson measures 800 km. If the tsunami began 3500 ft high and crossed flat ground to West Jefferson, it would decline to 2330 ft.

$$h_2 = h_1 * 10^{(-0.00022*d)} = 3500 * 0.667 = 2334 \text{ ft}$$

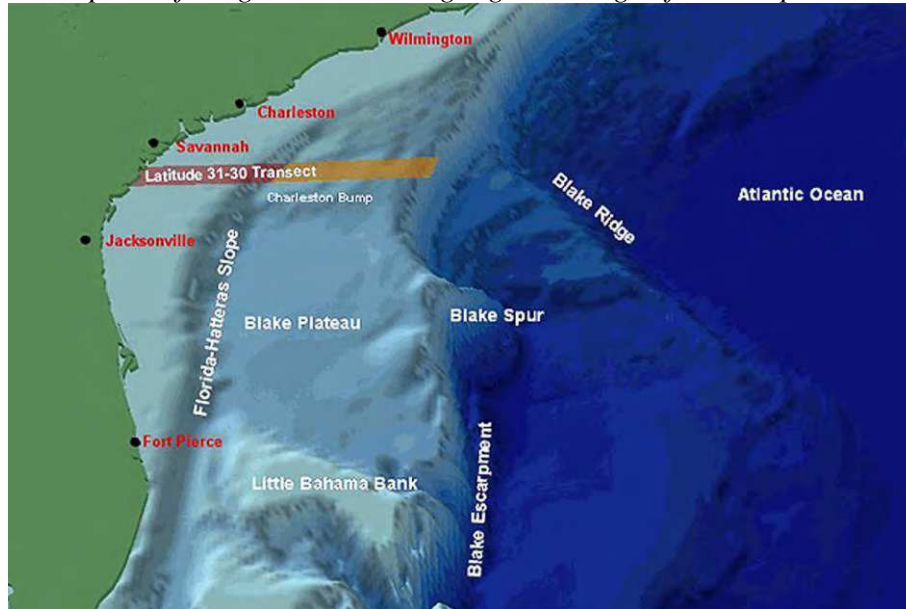
Offsetting this decline would be an increase in wave height by the fourth root of the ratio of water depth.

$$h_3 = h_2 * (h_0/h_2)^{(1/4)} = 2330 * (14,000/2330)^{(1/4)} = 2330 * 1.56 = 3652 \text{ ft}$$

This is higher than West Jefferson's 3100 ft, which suggests that the original wave height from the stacked pieces was closer to 2850 ft, which would give a maximum field height of 3130 ft. In the 3D image below, three stacked pieces are clearly visible including their original cliff face. (Image source: P. Weinbach, SCDNR)

9,577 BC: Atlantic Ocean Tsunami

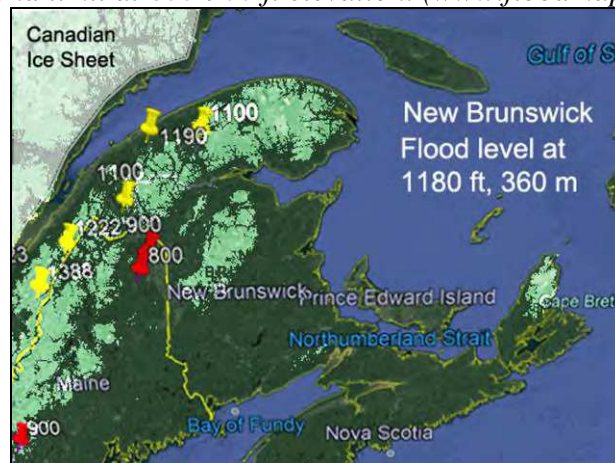
Figure 34: The area between Blake Escarpment and Blake Ridge is a turbidite that slipped off the top of Blake Plateau, leaving the Florida-Hatteras Slope behind. The two pieces fit together, including a ghost image of Blake Spur.



Flood in New Brunswick

New Brunswick lies 4500 km from the epicenter at Rockall Plateau, which gives an estimated max runup of 1534 ft by going around Newfoundland. To the north and west, the kilometer-high Canadian Ice Sheet stopped flood waters. All plowed fields are quite a bit lower, typically 1180 ft (Figure 35). Perhaps this represents a rebound from the ice sheet. A second limit of plowed fields occurs at 800 to 900 ft elevation in Maine, which must have happened after the initial wave subsided. Perhaps this level represents a rebound from the mountains of western Spain, Portugal and North Africa.

Figure 35: New Brunswick flood level at 1180 ft, which matches most of the highest plowed fields (yellow markers). Red markers indicate a second limit at 800-900 ft elevation. (www.floodmap.net)

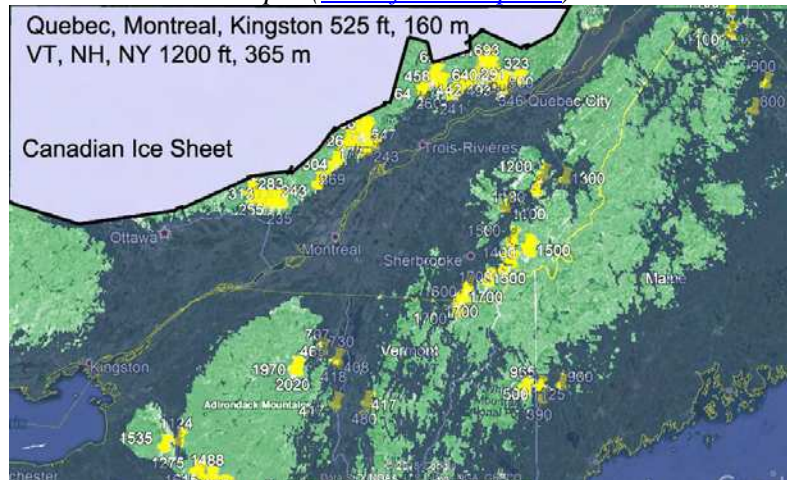


Flood in Toronto and Montreal

The water flowed up the Hudson River and up the St Lawrence River to Toronto and Montreal. North of the St. Lawrence River, the wave was blocked by the Canadian Ice Sheet (Figure 36).

Figure 36: Eastern Canada and Adirondack Mountains flood level.

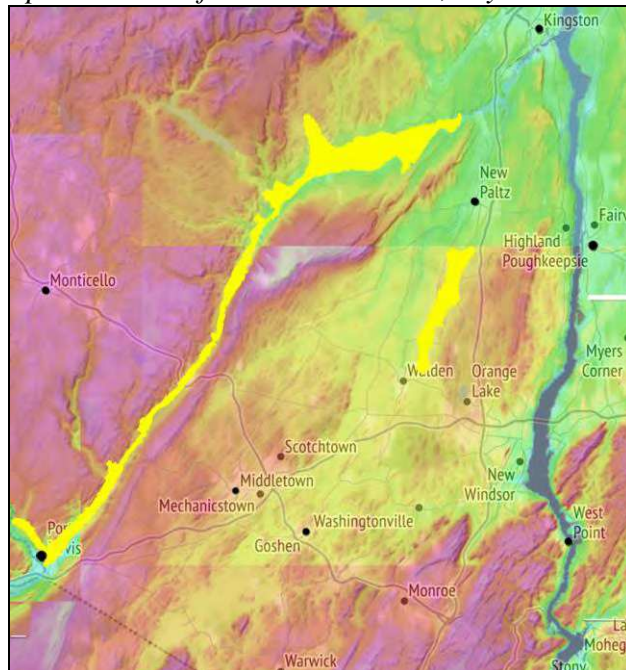
The highest plowed field is in the Adirondack Mountains at 2020 ft, but most are at 1700 ft and below. The narrow valley of Lake George may have catapulted the water higher on the western slope. (www.floodmap.net).



Deep sand west of the Hudson River

Off the coast of New Jersey, the tsunami picked up sand and dumped it on the far side of the first mountain range west of the Hudson River, Shawangunk Ridge, which varies from 300 to 500 m high (Figure 37). Thick deposits of sand support a dozen sand mines. In the 1800's, the Delaware and Hudson Canal carried anthracite coal down the valley from Pennsylvania to Kingston, where it was loaded onto river boats that sailed the Hudson River to New York City.

Figure 37: Deep sand west of the Hudson River, beyond Shawangunk Ridge.

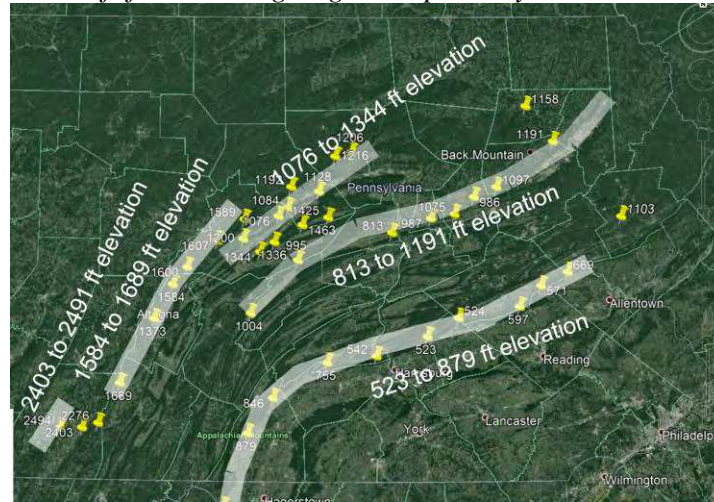


9,577 BC: Atlantic Ocean Tsunami

Flood in Eastern Pennsylvania

Eastern Pennsylvania, 4850 km from the epicenter, should have a maximum plowed field height of 1444 ft, which it does for the first three mountain ranges, but with succeeding ranges, the elevation climbs: 879 ft, 1191 ft, 1344 ft, 1689 ft, 2491 ft (Figure 38).

Figure 38: The highest plowed fields in Eastern Pennsylvania climb above the 984-ft flood level going west, possibly due to harmonic oscillation.



A strong possibility is that this higher level came from the Blake Plateau tsunami, detailed above. From the center of the stepped pieces of the Blake Plateau to the highest plowed field south of Johnstown in Pennsylvania measures 1000 km. If the tsunami began 2850 ft high and crossed flat ground to Johnstown, it would decline to 1717 ft.

$$h_2 = h_1 * 10^{(-0.00022*d)} = 2850 * 0.602 = 1717 \text{ ft}$$

Offsetting this decline would be an increase in wave height by the fourth root of the ratio of water depth, to 2902 ft, some 400 ft above the highest field at Johnstown.

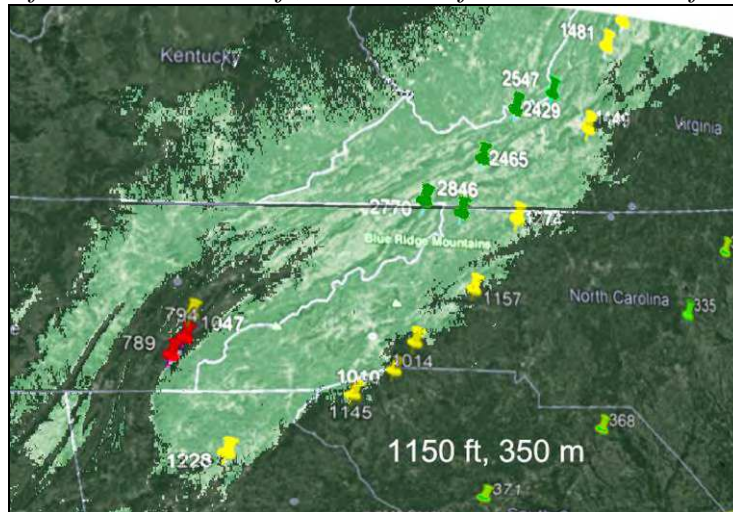
$$h_3 = h_2 * (h_0/h_2)^{(1/4)} = 1717 * (14,000/1717)^{(1/4)} = 1717 * 1.69 = 2902 \text{ ft}$$

Flood in Virginia, North Carolina, Georgia

The highest plowed fields of Virginia, North Carolina and Georgia, 5250 km from the epicenter, should be around 1350 feet, which they are, the highest being 1228 ft (Figure 39). Two anomalies occur. The first is a series of fields much higher, 2430 to 2846 ft, which came from the Blake Plateau tsunami, detailed above. The second is a flood level of 370 ft that must have come later.

Atlantic Flood from Atlantis to North America

Figure 39: The highest plowed fields of Virginia, North Carolina and Georgia are around 1150 ft, within the estimated height of 1320 ft (www.floodmap.net). Notice an earlier flood level at 2800 ft, and a later flood level at 370 ft.

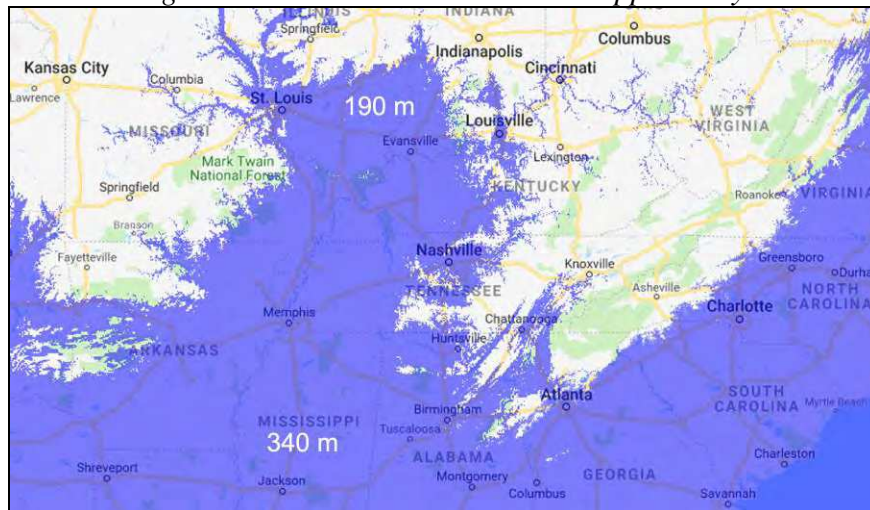


Flood in Mississippi Valley

When the flood rounded Georgia to Louisiana, it was 340m asl. A right turn requires a new calculation. It reached somewhat past St. Louis, 1100 km away.

$$h_1 = h_0 * 10^{(-0.00022 * d)} = 340\text{m} * 10^{(-0.00022 * 1100\text{km})} = 340 * 0.57 = 195 \text{ m}$$

Figure 40: Flood level in the Mississippi Valley.



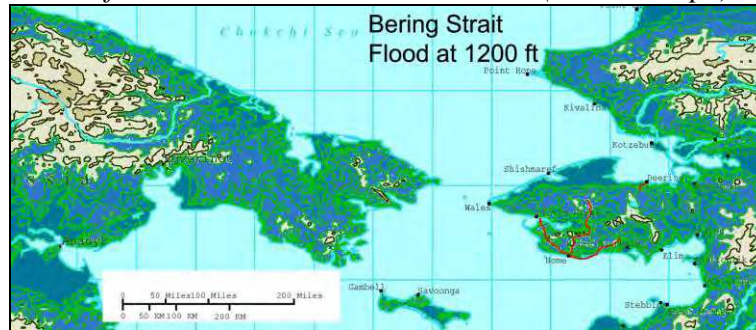
Flood at Bering Land Bridge

The Bering Strait, 6500 km from the epicenter at Rockall Plateau, had a calculated runup height of 346 m (1134 ft), which easily breached the Bering Land Bridge. Water flowed into the Pacific, which prevented sea life from the Pacific entering the Arctic Ocean. Six hundred years later, in 9050 BC, a narrow strait did open between the Arctic and Pacific Oceans and Pacific organisms appeared north of the Bering Land Bridge (Jakobsson, 2017).

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Figure 41: A flood of 1134 ft (345 m) crossed the Bering Land Bridge.

In 9600 BC, with sea level 39 m lower, the Bering Strait did not yet exist and one could walk across the Bering Land Bridge. Although the Atlantis flood breached a 400-mile section, Pacific sea life did not enter the Arctic Ocean. (Yellow Maps).



Atlantic Flood from Atlantis to Central and South America

Flood in Cuba

Figure 42: Cuba, 6275 km from the epicenter, saw a wave of 356 m.

Some may have survived in the mountains near Guantanamo. (www.floodmap.net)



Flood in Panama, Costa Rica, Columbia

Located 7680 km from the epicenter, the wave flooded Panama to the 300 m level (Figure 43). It also found a route past Medellin in Columbia and another through Costa Rica. The northwest coast of Columbia facing the Caribbean was completely submerged.

Figure 43: A 300 m flood crossed Panama to the Pacific. (www.floodmap.net)



Flood in Venezuela

Venezuela, located 6600 km from the epicenter, experienced a wave 341 m high, which flooded half the country and most of neighboring Columbia (Figure 44).

Atlantic Flood from Atlantis to Central and South America

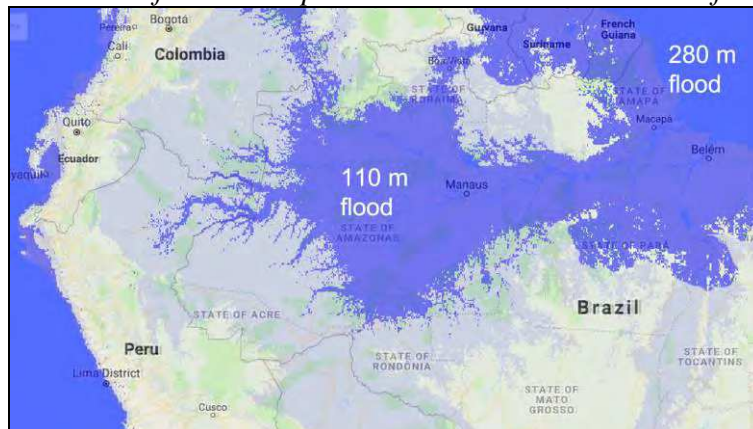
Figure 44: The flood swamped the interior of Venezuela and Columbia.



Flood in Brazil

The Amazon Basin, 8400 km from the epicenter, experienced a flood 278 m high at the entrance, but diluted down to perhaps 110 m in the interior because mountains partially guard the entrance (Figure 45).

Figure 45: The flood swamped the interior lowland basin of Brazil.



Flood at Antarctica

The north coast of Antarctica, 14,000 km from the epicenter, experienced a flood 72 m high (equations 12 and 13). Except for any habitation along the coast, it had little impact because the land rises so steeply.

However, as noted above, a simultaneous strike above north Antarctica ablated 800,000 km³ of ice, which raised sea level by 2.2 m. If any of the ice sheet slid into the ocean, the tsunami would have broken it up and allowed even more ice to slide.

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±100 BC, congruent with the Arctic Flood at 10,392 BC. Apparently, the 2-km thick sheet of ice lying on the seabed floated to the surface and drifted up against the edge of the Laptev sea in such a manner that it formed a barrier against salt water intrusion. The Lena River then filled the closed basin with fresh water, which lasted until the ice melted.

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